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## Exam A

### QUESTION 1

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 2

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. 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 3

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 4

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 5

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 6

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 7

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 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 A+ Certification Exam: Core 1 - Objective 3.2

**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 printer technician receives a support request for a laser printer that sometimes cuts off the bottom of the print job. During troubleshooting the technician notices that affected jobs are set for 8.5in x 14in (216mm x 356mm) paper and only print from a particular paper tray. Which of the following actions should the technician perform NEXT?

- A. Verify that the printing trays are correctly set.
- B. Swap printer trays until the print jobs complete as expected.
- C. Replace the tray rollers to ensure proper alignment.
- D. Reset the default to use 8.5in x 11in (216mm x 279mm) paper

**Correct Answer: A**

**Section:**

**Explanation:**

The most likely cause of the problem is that the printing trays are not configured to match the paper size of the print jobs. The technician should verify that the printing trays are correctly set for 8.5in x 14in (216mm x 356mm) paper and that the printer driver settings match the tray settings. This will ensure that the printer can feed and print the paper correctly without cutting off any part of the document.

Reference: <https://partners.comptia.org/docs/default-source/resources/a-core-1-content-guide> (page 16)

**QUESTION 43**

A technician is working on a desktop PC and wants to verify its NIC is functional. Which of the following should the technician use?

- A. Cable tester
- B. Loopback Plug
- C. Toner probe
- D. Network tap

**Correct Answer: B**

**Section:**

**Explanation:**

A loopback plug is a device that can be used to test the functionality of a network interface card (NIC) by sending and receiving data packets from itself. The loopback plug connects to the NIC's port and simulates a network connection without requiring another device or cable. The technician can use a loopback plug to verify that the NIC is able to transmit and receive data without errors or interruptions.

Reference: <https://www.comptia.org/training/books/a-core-1-220-1101-study-guide> (page 76)

**QUESTION 44**

A technician responds to a user who has reported that a laptop is too hot. The technician notices the laptop is not able to sit level on the workspace. What of the following BEST describes the issue with the laptop?

- A. The docking station is improperly installed.
- B. The hard drive is disconnected.
- C. The CPU fan is too powerful.
- D. The battery is damaged.



**Correct Answer: D**

**Section:**

**Explanation:**

A damaged battery can cause a laptop to overheat and swell, making it unable to sit level on the workspace. A swollen battery can also pose a fire hazard and damage other components of the laptop, such as the motherboard or keyboard. The technician should replace the battery as soon as possible and dispose of it properly according to local regulations. Reference:

<https://partners.comptia.org/docs/default-source/resources/a-core-series-combined-content-guide>

(page 25)

**QUESTION 45**

A virtual file server in the cloud is configured to automatically add compute resources during times of high load on the server. Which of the following describes this cloud feature?

- A. File synchronization
- B. High availability
- C. Rapid elasticity
- D. Shared resources

**Correct Answer: C**

**Section:**

**Explanation:**

Rapid elasticity is a cloud feature that allows cloud services to scale up or down automatically according to demand or load on the server, without requiring manual intervention or configuration changes by users or administrators. This enables cloud services to provide optimal performance and efficiency at all times, as well as reducing costs by only using resources when needed. Reference:

<https://www.comptia.org/training/books/a-core-1-220-1101-study-guide> (page 98)

**QUESTION 46**

A technician is preparing laptops for deployment to a medical department. The laptops require SSD-level encryption to be enabled, but BitLocker refuses to turn it on. An error message states that a BIOS-level setting has not been turned on. Which of the following should the technician check FIRST when troubleshooting this issue?

- A. Recorder the priority in Windows Boot Manager.
- B. Check to make sure Secure Boot is turned on.
- C. Ensure that the Trusted Platform Module is enabled.
- D. Verify that the latest updates are installed.

**Correct Answer: C**

**Section:**

**Explanation:**

The Trusted Platform Module (TPM) is a hardware component that provides cryptographic functions and secure storage for encryption keys, passwords, and certificates. BitLocker requires a TPM to be enabled and activated in the BIOS or UEFI settings of the laptop in order to use SSD-level encryption.

The technician should check that the TPM is enabled and activated before trying to turn on BitLocker.

Reference: <https://partners.comptia.org/docs/default-source/resources/a-core-series-combined-content-guide>

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**QUESTION 47**

A customer brings a phone to a repair shop because it is experiencing extreme slowness and applications are crashing. A technician attempts to install a diagnostic application, but the installation fails. Which of the following should the technician do FIRST to troubleshoot the issue?

- A. Check the storage space.
- B. Inspect the screen for damage.
- C. Install the latest updates.

D. Recalibrate the digitizer.

**Correct Answer: A**

**Section:**

**Explanation:**

One of the possible causes of extreme slowness and application crashes on a phone is low or insufficient storage space. This can affect the performance and functionality of the phone, as well as prevent new applications from being installed or updated. The technician should check the storage space on the phone and see if there is enough free space available for the diagnostic application and other operations. The technician should also advise the customer to delete or move any unnecessary or unused files, apps, or data from the phone to free up some space. Reference: <https://partners.comptia.org/docs/default-source/resources/a-core-1-content-guide> (page 10)

#### QUESTION 48

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 49

Laura, a customer, has instructed you to configure her home office wireless access point.

She plans to use the wireless network for finances and has requested that the network be setup with the highest encryption possible.

Additionally, Laura knows that her neighbors have wireless networks and wants to ensure that her network is not being interfered with by the other networks.

She requests that the default settings be changed to the following.

Wireless Name: HomeWiFi

Shared Key: CompTIA

Router Password: Secure\$1

Finally, Laura wants to ensure that only her laptop and Smartphone can connect to the network.

Laptop: IP Address 192.168.1.100

Hardware Address: 00:0A:BF:03:C4:54

Smartphone: IP Address 192.168.1.101

Hardware Address: 09:2C:D0:22:3F:11

**INSTRUCTIONS**

Configure Laura's wireless network using the network adapter window.

If at any time you would like to bring back the initial state of the situation, please click the Reset All button.



### Laura's Wireless Configuration

WIRELESS SETUP NETWORK FILTER ADMINISTRATOR TOOLS

**Wireless Network Settings**

Enable Wireless:

Wireless Network Name:  (Also called the SSID)

Wireless Channel:

Disable SSID Broadcast:

802.11g Only Mode:

**Wireless Security Mode**

Security Mode:

**WPA2**

Passphrase:

Confirmed Passphrase:

### Laura's House



-  Wireless Network Name: **Default**
- Security Mode: **Open**
- Wireless Channel: **11**
-  Wireless Network Name: **MyWi**
- Security Mode: **WEP**
- Wireless Channel: **6**
-  Wireless Network Name: **PatsWiFi**
- Security Mode: **WEP**
- Wireless Channel: **11**

### Laura's Wireless Configuration

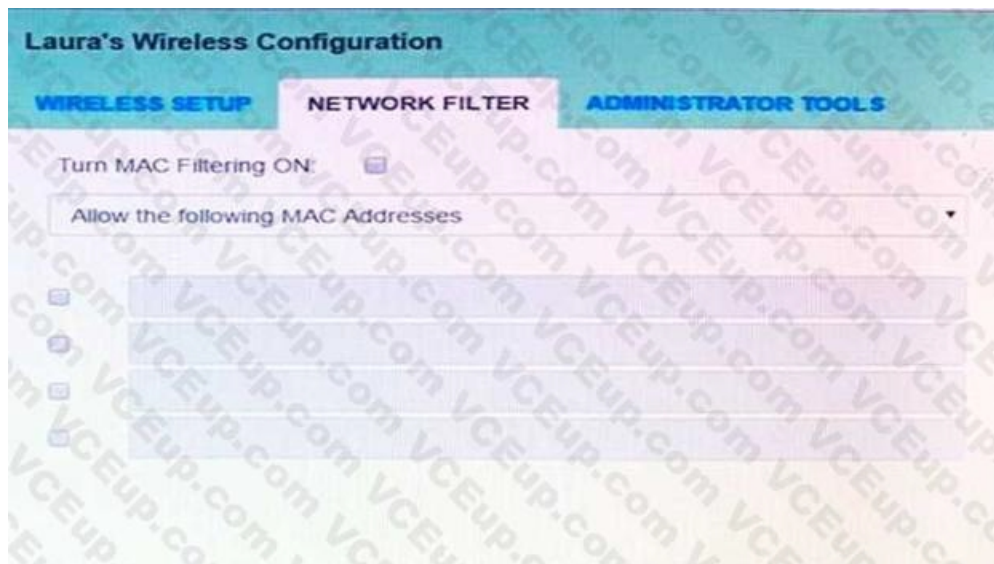
WIRELESS SETUP NETWORK FILTER ADMINISTRATOR TOOLS

Please enter the same password into both boxes for confirmation.

Password:

Verify Password:

Vdumps



 **vdumps**

A.

**Correct Answer: A**

**Section:**

**Explanation:**

Answer: A

Explanation:

solution as



**Wireless Configuration**

Wireless Setup    Network Filter    Administrator Tools

**WIRELESS NETWORK SETTINGS:**

Enable Wireless:

Wireless Network Name:  (Also called the SSID)

Wireless Channel:

Disable SSID Broadcast:

802.11g Only Mode:

**WIRELESS SECURITY MODE:**

Security Mode:

**WPA2:**

Passphrase:

Confirmed Passphrase:





 **vdumps**



#### QUESTION 50

A small ISP has hired a new technician Joe, the new technician, is being trained to configure customers\* home networks The trailing instructor gives me technician a starter kit with cables, cable ends, and other network equipment and asks mm to build a working network.

The computer should be connected to have internet connectivity and the phone should be connected to have a dial tone.

#### INSTRUCTIONS

Use the appropriate cables. cable ends, tools and equipment to configure the network ana connect an components accordingly

There are 3 steps and the simulation starts on step 1.



A. Answer of both steps below

**Correct Answer: A**

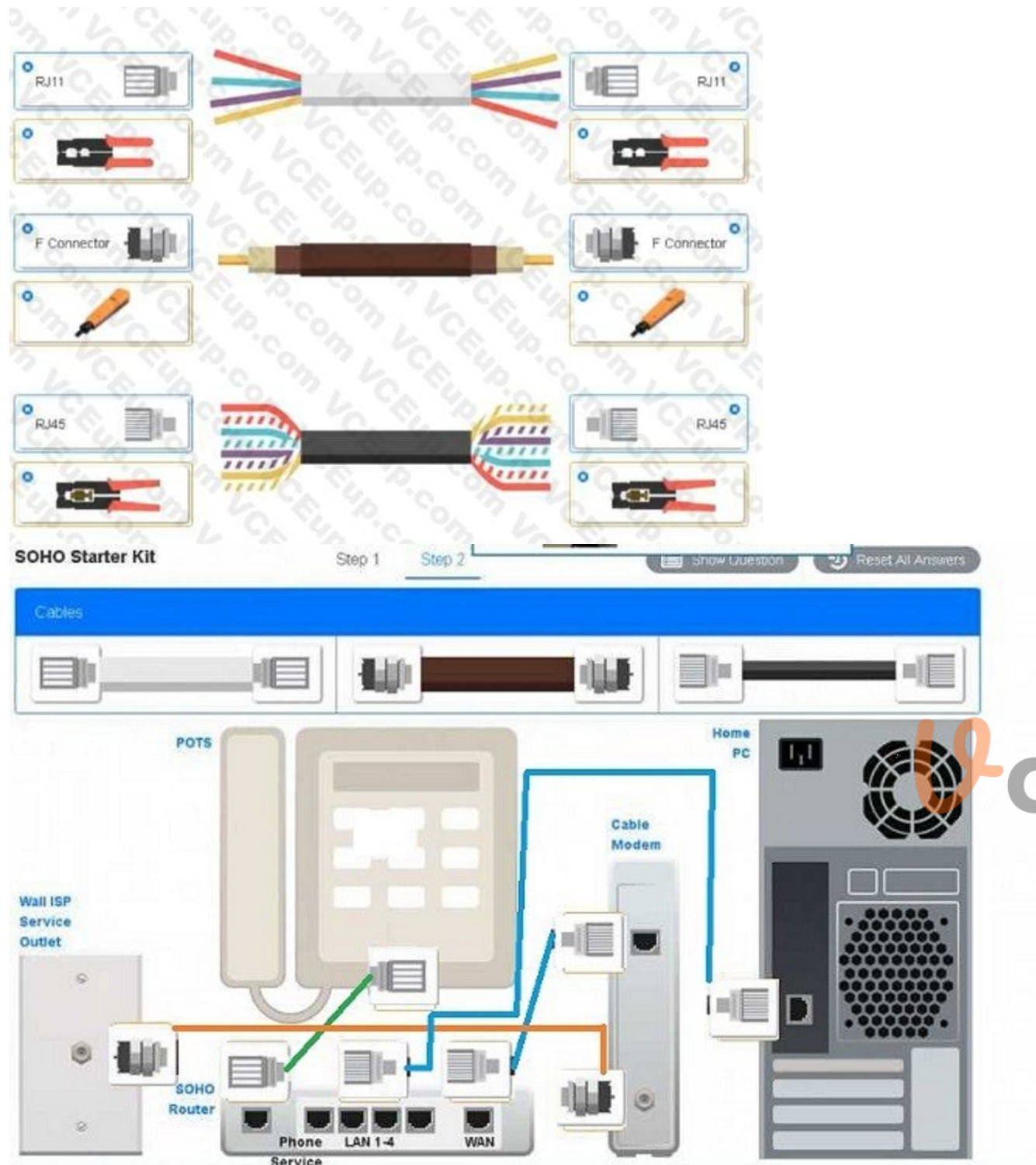
**Section:**

**Explanation:**

Answer of both steps below.







**QUESTION 51**

Which of the following would MOST likely be used to obtain electronic images of a large number of printed documents?

- A. NFC device
- B. ADF/flatbed scanner
- C. Camera/webcam
- D. QR scanner

**Correct Answer: B**

**Section:**

**Explanation:**

Explanation:

ADF/flatbed scanner would most likely be used to obtain electronic images of a large number of printed documents. Reference: CompTIA A+ Certification Exam Guide, Exam 220-1001, Page 351

**QUESTION 52**

A technician is upgrading a legacy wireless router for a home user. After installing the new router and configuring the SSID to be the same, none of the devices will connect to the network. Which of the following should the technician check NEXT?

- A. DHCP pool configuration
- B. MAC filtering list
- C. Wireless protocol settings
- D. DNS servers

**Correct Answer: B**

**Section:**

**Explanation:**

The technician should check the MAC filtering list next as the new router may have a different MAC address than the old router. Reference: CompTIA A+ Certification Exam Guide, Exam 220-1001, Page 332

**QUESTION 53**

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 54**

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 55**

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 56

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 57

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>2</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 58

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 59

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 60

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 61

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 62

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 63**

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 64**

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 65**

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 66

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 67

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 220-1001 and 220-1002) | 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 68

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 69

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). 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 70

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. (Q 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 71

A thermal punier 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 72

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 73

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 74

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 75

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 76

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 77



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 comptra.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 78

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 79

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 80

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.

#### QUESTION 81

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 82

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 83**

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 84**

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 85**

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 100metres. However, lower-specification cables can often be successfully used, particularly with the shorter cable lengths required in a typical home123.

**QUESTION 86**

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 87**

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 88**

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 89**

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, 220-1001, Chapter 13

#### QUESTION 90

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 91

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 92

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 93

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 94

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 95**

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 96**

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 97**

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 third-party 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 98

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 99

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 100

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 101

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 102

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 103

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 104**

A printer is leaving vertical black lines on every print job. A technician runs a test job and sees the same patterned lines. Which of the following should the technician do first to resolve the issue?

- A. Replace the toner.
- B. Contact the vendor.
- C. Clean the rollers.
- D. Replace the paper.

**Correct Answer: C**

**Section:**

**QUESTION 105**

Which of the following network devices converts fiber network signals from light into electric signals that can be used by a Wi-Fi router?

- A. Hub
- B. PoE
- C. ONT
- D. NIC

**Correct Answer: C**

**Section:**

**Explanation:**

An ONT, or Optical Network Terminal, is a device that converts fiber network signals from light into electric signals that can be used by a Wi-Fi router. An ONT is an interface between the fiber optic network that carries optical signals and the devices that use electrical signals, such as routers, telephones, or computers. An ONT is similar to a modem for fiber internet, as it allows the devices to communicate with the internet service provider (ISP) and access the internet.

The Official CompTIA A+ Core 1 Student Guide (Exam 220-1101) eBook, page 4-111

What Is an ONT? Optical Network Terminals Explained | Reviews.org<sup>2</sup>

What Is An ONT & How is it Used in Fiber Networks?- STL Tech<sup>3</sup>

**QUESTION 106**

A user with a custom hosts file is having difficulty connecting to a locally hosted site on a small office network. The technician cannot ping the server hostname from the user's computer. Which of the following should the technician ensure on the server?

- A. The server is configured with a static IP address.
- B. The server does not have an APIPA.
- C. The appropriate services are enabled on the server.
- D. The server's secondary NIC is functioning.

**Correct Answer: A**

**Section:**

**Explanation:**

A custom hosts file is a file that maps hostnames to IP addresses, allowing the user to access websites or servers by their names instead of their numerical addresses. For example, a user can add a line like 192.168.1.100



myserver.local to their hosts file and then access the server by typing `myserver.local` in their browser. However, this method only works if the IP address of the server does not change. If the server is configured with a dynamic IP address, which means it can be assigned a different IP address by the network router or DHCP server, then the hosts file entry will become invalid and the user will not be able to connect to the server by its hostname. Therefore, the technician should ensure that the server is configured with a static IP address, which means it has a fixed and permanent IP address that does not change. This way, the hosts file entry will always point to the correct IP address of the server and the user will be able to ping the server hostname from their computer.

[How to Add a Local DNS Lookup to Hosts File - Help Desk Geek](#)1

[Set Custom Domain Name for localhost Website in IIS - TutorialsTeacher.com](#)2

[The Official CompTIA A+ Core 1 Student Guide \(Exam 220-1101\) eBook, page 4-9](#)

#### QUESTION 107

Which of the following is the primary function of a DNS service?

- A. To dynamically assign network addresses to hosts
- B. To translate domain names to IP addresses
- C. To authenticate users to remote servers
- D. To serve files over the network

**Correct Answer: B**

**Section:**

#### QUESTION 108

Which of the following allows several websites from different companies to be housed on the same virtual server?

- A. Rapid elasticity
- B. High availability
- C. Shared resources
- D. Metered utilization



**Correct Answer: C**

**Section:**

**Explanation:**

Shared resources is the concept that allows several websites from different companies to be housed on the same virtual server. A virtual server is a software-based server that runs on a physical server and can host multiple virtual machines (VMs). Each VM can run a different operating system and application, such as a website, and have its own allocated resources, such as CPU, memory, disk space, and network bandwidth. However, the VMs share the underlying hardware resources of the physical server, which reduces the cost and complexity of maintaining separate servers for each website. This also enables rapid scalability, as new VMs can be created or deleted as needed.

One of the methods to host multiple websites on the same virtual server is to use virtual hosts. Virtual hosts are a feature of web servers, such as Apache, that allow the web server to serve different websites based on the domain name or IP address requested by the client. For example, a web server can host two websites, `a.example.com` and `b.example.com`, on the same virtual server and the same port (such as 80 or 443), by using virtual hosts to map each domain name to a different document root directory. The web server will then deliver the content of the corresponding website to the client based on the domain name in the HTTP request header.

[How to Host Multiple Websites With One Apache Server](#)1

[How to run multiple sites on one apache instance](#)2

[Multiple different website hosting on same port 443 and same server or ...](#)3

[When several name-based virtual hosts on the same web server share the ...](#)4

[How to Host Multiple Sites on One Server - Server Mania](#)5

#### QUESTION 109

A company wants to save money by leveraging the cloud while still being able to customize the infrastructure. Which of the following cloud models would best address the company's needs?

- A. Private
- B. Public

- C. Hybrid
- D. Community

**Correct Answer: C**

**Section:**

**Explanation:**

A hybrid cloud model would best address the company's needs of saving money by leveraging the cloud while still being able to customize the infrastructure. A hybrid cloud model is a combination of public and private cloud services, connected by a secure network. A public cloud service is a cloud service that is offered by a third-party provider over the Internet, and is shared by multiple customers. A private cloud service is a cloud service that is dedicated to a single customer, and is hosted either on-premises or by a third-party provider. A hybrid cloud model allows the company to use the public cloud for cost-effective and scalable services, such as storage, backup, or analytics, and use the private cloud for more sensitive or customized services, such as security, compliance, or performance. A hybrid cloud model also enables the company to move workloads between the public and private cloud as needed, depending on the demand, availability, or cost. A hybrid cloud model can provide the company with the best of both worlds: the flexibility and efficiency of the cloud, and the control and customization of the infrastructure.

What is Hybrid Cloud? | IBM1

Hybrid Cloud Computing | Microsoft Azure2

#### QUESTION 110

Which of the following components houses the MX record?

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

**Correct Answer: A**

**Section:**

**Explanation:**

The domain name system (DNS) is the component that houses the MX record. The MX record is a type of DNS record that specifies which mail server is responsible for receiving email messages for a domain name. VLAN is an acronym for virtual local area network, which is a logical subdivision of a network that allows devices to communicate as if they were on the same physical segment. DHCP is an acronym for dynamic host configuration protocol, which is a network protocol that assigns IP addresses and other configuration parameters to devices on a network automatically. SMTP is an acronym for simple mail transfer protocol, which is a network protocol that allows sending and receiving email messages over TCP/IP networks



#### QUESTION 111

DRAG DROP

A natural disaster occurred, and the storage system for the development team is unrecoverable. The technician is preparing replacement storage arrays that include a hypervisor with the capacity to support several virtual machines. Two separate bays are available, and both should be utilized.

Requirements for the primary array include the following:

- No need to be scalable
- Very fast on reads
- Fault tolerance of one drive
- Ability to function with only one drive
- Easily recoverable data
- High redundancy
- Minimum number of drives

Requirements for the secondary array include the following:

- Fault tolerance of one drive
- Total space of 600G3
- Best write performance
- Minimum number Of drives

Instructions:



Drag and Drop the appropriate Hard Drives. Then Open each array to complete the configuration.

Select and Place:



Correct Answer:



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

## Primary Array:

Drag and drop two 120 GB SSD hard drives to the primary array bay.

Open the primary array and select RAID 1 as the RAID level. RAID 1 provides fault tolerance of one drive, ability to function with only one drive, easily recoverable data, high redundancy, and very fast on reads. It also does not need to be scalable and uses the minimum number of drives (two) for RAID 1.

Confirm the configuration and close the primary array.

## Secondary Array:

Drag and drop two 300 GB SSD hard drives to the secondary array bay.

Open the secondary array and select RAID 0 as the RAID level. RAID 0 provides the best write performance and uses the minimum number of drives (two) for RAID 0. It also provides a total space of 600 GB (300 GB x 2), which meets the requirement.

Confirm the configuration and close the secondary array.

You have completed the configuration of the storage arrays.

**QUESTION 112**

A video game developer is requesting a new desktop computer with eight sticks of memory. The developer wants the desktop computer to take advantage of all available memory bandwidth without sacrificing performance. Which of the following would be the BEST solution?

- A. Triple-channel with DDR5 ECC RAM
- B. Quad-channel with DDR4 RAM
- C. Quad-channel with DDR5 SODIMM
- D. Dual-channel with DDR4 RAM

**Correct Answer: B**

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

Quad-channel memory architecture allows the CPU to access four memory modules simultaneously, increasing the memory bandwidth and performance. DDR4 RAM is a type of memory that has higher speed and lower power consumption than DDR3. SODIMM is a smaller form factor of memory that is typically used in laptops, not desktops. ECC RAM is a type of memory that can detect and correct errors, but it is more expensive and slower than non-ECC RAM. Triple-channel memory architecture is less common and less efficient than quad-channel. Reference:

<https://www.comptia.org/certifications/a#examdetails> <https://www.comptia.org/blog/what-is-ddr4-ram> <https://www.comptia.org/blog/what-is-quad-channel-memory>

**QUESTION 113**

A user has noticed high CPU temperatures when gaming. The user would like to lower the CPU temperature, and cost is not an issue. Which of the following should the user do to BEST cool the CPU while keeping noise to a minimum?

- A. Upgrade the thermal paste.
- B. Use a copper heat sink.
- C. Upgrade the CPU fan.
- D. Install liquid cooling.

**Correct Answer: D**

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

Liquid cooling is a method of cooling the CPU by circulating a liquid through a closed loop that absorbs heat from the CPU and transfers it to a radiator. Liquid cooling is more effective and quieter than





air cooling, which uses a fan and a heat sink. However, liquid cooling is also more expensive and complex to install. Upgrading the thermal paste, using a copper heat sink, or upgrading the CPU fan are ways to improve air cooling, but they will not lower the CPU temperature as much as liquid cooling. Reference: <https://www.comptia.org/certifications/a#examdetails>  
<https://www.comptia.org/blog/what-is-liquid-cooling>

**QUESTION 114**

Which of the following wireless technologies is used by mobile devices to process payments at kiosks?

- A. Wi-Fi 6
- B. Bluetooth
- C. NFC
- D. RFID

**Correct Answer: C**

**Section:**

**Explanation:**

NFC stands for near-field communication, which is a wireless technology that allows two devices to exchange data when they are in close proximity (usually within a few centimeters). NFC is commonly used by mobile devices to process payments at kiosks, such as Apple Pay or Google Pay. Wi-Fi 6 is a wireless standard that provides faster speed and lower latency than previous versions of Wi-Fi. Bluetooth is a wireless technology that allows devices to communicate over short distances (usually within 10 meters). RFID stands for radio-frequency identification, which is a wireless technology that uses radio waves to identify and track objects that have RFID tags attached to them

**QUESTION 115**

A technician is troubleshooting a laptop that is unable to browse the internet when connected to the company's wireless network. The technician has verified network connectivity is functional when using an Ethernet cable. Which of the following should the technician use to check if the laptop's wireless NIC is functional?

- A. Hotspot
- B. Near-field communication
- C. Ethernet tap
- D. Spectrum analyzer

**Correct Answer: D**

**Section:**

**Explanation:**

A spectrum analyzer is a device that can measure the signal strength and frequency of wireless networks. It can help troubleshoot wireless NIC issues by identifying interference, channel overlap, or signal degradation. A hotspot is a wireless access point that provides internet access to mobile devices. Near-field communication is a technology that allows two devices to communicate wirelessly when they are in close proximity. An Ethernet tap is a device that can monitor network traffic on an Ethernet cable by creating a copy of the data without affecting the original transmission. Reference: <https://www.comptia.org/certifications/a#examdetails> <https://www.comptia.org/blog/what-is-a-spectrum-analyzer>

**QUESTION 116**

Which of the following virtualization technologies allows Linux and Windows operating system to run concurrently?

- A. Test environment
- B. Sandbox
- C. Legacy OS

D. Cross-platform

**Correct Answer: D**

**Section:**

**Explanation:**

Cross-platform virtualization allows different operating systems, such as Linux and Windows, to run on the same hardware or software platform. This enables users to access applications and data from different operating systems without switching devices or rebooting.

Reference: <https://www.comptia.org/training/books/a-core-1-220-1101-study-guide> (page 59)

**QUESTION 117**

A user reports a repetitive clicking noise is coming from a personal laptop. A technician notes the laptop's inputs are severely delayed. Which of the following should the technician replace to resolve the issue?

- A. The memory
- B. The storage device
- C. The integrated keyboard
- D. The battery

**Correct Answer: B**

**Section:**

**Explanation:**

A repetitive clicking noise coming from a laptop is usually a sign of a failing hard disk drive (HDD), which is a type of storage device that uses spinning platters and moving heads to read and write data. A failing HDD can also cause severe delays in input and output operations, as well as data loss or corruption. The technician should replace the HDD with a new one or upgrade it to a solid state drive (SSD), which is another type of storage device that uses flash memory and has no moving parts.

Reference: <https://partners.comptia.org/docs/default-source/resources/a-core-series-combinedcontent-guide> (page 24)



**QUESTION 118**

Which of the following network devices operates as a bridge function?

- A. Hub
- B. Wireless access point
- C. Transceiver
- D. Media converter

**Correct Answer: D**

**Section:**

**Explanation:**

A media converter is a network device that operates as a bridge function, which means it connects two different types of network media, such as copper and fiber optic cables, and converts signals between them. This allows network devices that use different media types to communicate with each other over long distances or in different environments, without requiring major changes or upgrades to the existing network infrastructure.

Reference:

<https://www.comptia.org/training/books/a-core-1-220-1101-study-guide> (page 73)

**QUESTION 119**

A technician needs to configure a printer for network communications. 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. IMEI
- G. IP address
- H. Drivers

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

**Section:**

**Explanation:**

To configure a printer for network communications, the technician must configure its network settings, such as gateway, subnet mask, and IP address. The gateway is the IP address of the router or device that connects the printer to other networks or the internet. The subnet mask is a value that defines which part of the IP address identifies the network and which part identifies the host or device on that network. The IP address is a unique identifier that allows the printer to communicate with other devices.

#### QUESTION 120

Users report that all copies produced on a copier have a solid black line, but printing is unaffected. Which of the following is the MOST likely cause?

- A. Failing imaging drum
- B. A scratch on the scanning bed
- C. Bad output tray
- D. Damaged (user

**Correct Answer: B**

**Section:**

**Explanation:**

A scratch on the scanning bed of a copier can cause a solid black line to appear on all copies, as the scanner cannot read the original document properly through the scratch. The scratch can also reflect light and create noise in the scanned image. The printing function is unaffected by the scratch, as it does not use the scanning bed. The technician should inspect and clean the scanning bed, and replace it if necessary. Reference: <https://partners.comptia.org/docs/default-source/resources/acore-1-content-guide> (page 16)

#### QUESTION 121

A user reports that all print jobs sent to a laser printer have random and incorrect characters throughout the pages. Which of the following actions should the technician do to resolve this issue?

- A. Replace the fuser.
- B. Adjust the rollers.
- C. Update the driver.
- D. Shake the toner

**Correct Answer: C**

**Section:**

**Explanation:**

One of the possible causes of random and incorrect characters appearing on print jobs sent to a laser printer is an outdated or corrupted driver. The driver is a software component that communicates between the operating system and the printer, and converts data into a format that the printer can understand. If the driver is outdated or corrupted, it may send incorrect or garbled data to the printer, resulting in poor print quality or errors. The technician should update the driver to the latest version from the manufacturer's website, or uninstall and reinstall it if necessary. Reference: <https://www.comptia.org/training/books/a-core-1-220-1101-study-guide> (page 47)

#### QUESTION 122

A user's Windows computer started running slowly after the installation of a CAD program. The computer has intermittent timeouts and often has to be rebooted to restore functionality. The computer seems to work correctly if the application is not running. Which of the following should the technician do NEXT to help troubleshoot the issue? (Select TWO).

- A. Replace the video card.
- B. Research the requirements of the application.
- C. Install a new case fan.
- D. Run chkdsk on the HDD.
- E. Check the Event Viewer logs.
- F. Reinstall the application.

**Correct Answer: B, E**

**Section:**

**Explanation:**

The technician should research the requirements of the CAD program to see if the computer meets them or needs any upgrades or updates to run it properly. The technician should also check the Event Viewer logs to see if there are any errors or warnings related to the application or system performance that could indicate the cause of the problem or suggest a solution. Reference:

<https://www.comptia.org/training/books/a-core-1-220-1101-study-guide> (pages 43, 47)

#### QUESTION 123

A user who is facilitating a videoconference reports that the participants can be heard. However, when the user attempts to speak, none of the participants can hear the user. Which of the following is the FIRST step the technician should take?

- A. Restart the Videoconference.
- B. Replace the laptop.
- C. Check the audio inputs.
- D. Try another microphone.

**Correct Answer: C**

**Section:**

**Explanation:**

The technician should check that the audio inputs are configured correctly for the videoconference software and that they are not muted or disabled. The technician should also make sure that the microphone is plugged in properly and that it is not faulty or damaged. If possible, the technician should test the microphone on another device or use another microphone on the same device to isolate the problem. Reference:

<https://partners.comptia.org/docs/default-source/resources/a-core1-content-guide>

(page 11)

#### QUESTION 124

An IT manager is evaluating ticket resolution times. While reviewing the data, the manager notices repetitive issues are taking longer than expected to resolve. Which of the following changes should the manager implement to resolve repetitive issues more quickly?

- A. Require the technicians to spend more time testing theories to determine the root causes of issues.
- B. Require the technicians to verify full system functionality when resolving issues.
- C. Require the technicians to gather more information when speaking with users about issues.
- D. Require the technicians to document the findings, action, and outcomes of issues.

**Correct Answer: D**

**Section:**

**Explanation:**

By documenting the findings, action, and outcomes of issues, the technicians can create a knowledge base that can be used to resolve similar issues in the future more quickly and efficiently. The documentation can also help identify patterns or trends that can lead to preventive measures or root cause analysis. Documenting the issues can also improve communication and collaboration among technicians and users, as well as provide evidence of service quality and performance. Reference:

<https://partners.comptia.org/docs/default-source/resources/a-core-1-content-guide> (page 4)



**QUESTION 125**

A technician needs to increase the available RAM on a virtual workstation. Which of the following should the technician do?

- A. Increase the ECC memory timings in the BIOS.
- B. Upgrade to the latest DDR5 modules.
- C. Clear the temporary files on the workstation's boot drive.
- D. Use a hypervisor to adjust the resource allocation.

**Correct Answer: D**

**Section:**

**Explanation:**

A hypervisor is a software layer that manages and allocates resources for virtual machines (VMs) on a physical host machine. A technician can use a hypervisor to adjust the resource allocation for a virtual workstation, such as increasing the amount of RAM assigned to it from the available pool of memory on the host machine. This can improve the performance and functionality of the virtual workstation without requiring any hardware changes or modifications. Reference:

<https://www.comptia.org/training/books/a-core-1-220-1101-study-guide> (page 59)

**QUESTION 126**

A user's laptop is experiencing severe slowdowns when operating process-intensive tasks. Which of the following memory upgrades is compatible with a laptop?

- A. DIMM
- B. ECC RAM
- C. Virtual RAM
- D. SODIMM

**Correct Answer: D**

**Section:**

**Explanation:**

SODIMM stands for Small Outline Dual In-line Memory Module and is a type of memory module that is compatible with laptops and other small devices. SODIMMs are smaller and thinner than DIMMs (Dual In-line Memory Modules), which are typically used for desktop PCs and servers. Upgrading or adding SODIMMs can increase the amount of RAM available for a laptop, which can improve its performance and speed when running process-intensive tasks. Reference:

<https://partners.comptia.org/docs/default-source/resources/a-core-series-combined-content-guide> (page 24)

**QUESTION 127**

Following a scheduled power outage, users report they cannot access the local intranet. A technician is able to ping the IP address of the server that is hosting the website. Which of the following services is MOST likely offline?

- A. Web
- B. DNS
- C. File
- D. DHCP

**Correct Answer: B**

**Section:**

**Explanation:**

DNS stands for Domain Name System and is a service that translates domain names (such as [www.example.com](http://www.example.com)) into IP addresses (such as 192.168.1.100) that computers can use to communicate over a network. If the DNS server is offline, users may not be able to access websites

or other network resources by using their domain names, even if they are online and reachable by their IP addresses. The technician should check if the DNS server is running and configured correctly, or use an alternative DNS server if possible.

Reference: <https://www.comptia.org/training/books/a-core-1-220-1101-study-guide> (page 81)



**QUESTION 128**

A company would like to take advantage of the cost savings of cloud computing by only paying for the resources used. Which of the following will BEST address this need?

- A. Shared resources
- B. Rapid elasticity
- C. Metered utilization
- D. High availability

**Correct Answer: C**

**Section:**

**Explanation:**

Metered utilization is a cloud feature that allows cloud providers to charge customers based on their actual consumption of resources, such as CPU time, storage space, bandwidth, or transactions. This enables customers to pay only for the resources they use, rather than a fixed or flat rate, which can reduce costs and increase efficiency. Metered utilization can also provide more transparency and accountability for both cloud providers and customers, as they can track and monitor their resource usage and billing. Reference: <https://partners.comptia.org/docs/default-source/resources/a-core-1content-guide> (page 97)

**QUESTION 129**

Which of the following does a DHCP reservation MOST likely apply to?

- A. Smart TV
- B. Mobile device
- C. Workstation
- D. Printer

**Correct Answer: D**

**Section:**

**Explanation:**

A DHCP reservation is a feature that allows a DHCP server to assign a specific IP address to a specific device on a network, based on its MAC address. This ensures that the device always receives the same IP address, even if it is disconnected or rebooted. A DHCP reservation is most likely applied to a printer, as it can make it easier for users to find and connect to the printer on the network, without having to change the printer settings or deal with IP address conflicts. Reference:

<https://www.comptia.org/training/books/a-core-1-220-1101-study-guide> (page 84)

**QUESTION 130**

A technician is attempting to fix a computer that does not turn on when the power button is pressed. Which of the following should the technician perform NEXT to troubleshoot the issue?

- A. Verify the output voltages from the power supply unit.
- B. Open the computer cabinet and replace the power button.
- C. Remove and reconnect all cables that are plugged into the motherboard.
- D. Reseat the power cable and confirm the outlet is providing energy.

**Correct Answer: D**

**Section:**

**Explanation:**

The first step in troubleshooting a computer that does not turn on when the power button is pressed is to check if there is any power going to the computer. The technician should reseat or reconnect the power cable to ensure it is firmly attached to both ends, and confirm that the outlet or power strip is providing energy by using a multimeter or another device. This can eliminate any issues with loose or faulty connections or power sources, and help isolate the problem further. Reference:

<https://partners.comptia.org/docs/default-source/resources/a-core-series-combined-content-guide>  
(page 28)



**QUESTION 131**

A customer has a Wi-Fi-capable laptop to use when traveling for work. Which of the following will allow the laptop to stay connected when the user travels?

- A. Cellular card
- B. Wi-Fi extender
- C. Bluetooth
- D. GPS

**Correct Answer: A**

**Section:**

**Explanation:**

A cellular card is a device that allows a laptop to connect to the internet using a cellular network, such as 4G or 5G. A cellular card can provide internet access when the user travels and does not have access to a Wi-Fi network. A cellular card may require a subscription plan from a cellular service provider. A Wi-Fi extender is a device that boosts the signal of an existing Wi-Fi network, but it does not provide internet access by itself. Bluetooth is a wireless technology that allows devices to communicate over short distances, but it does not provide internet access either. GPS is a satellite-based system that provides location and navigation information, but it does not provide internet access as well. Reference: <https://www.comptia.org/blog/what-is-a-cellular-card>

**QUESTION 132**

A user built a new PC with parts sourced from a popular online vendor. The system boots to the OS and basic browsing works, but whenever the user opens a 4K video or starts to play a game, the system immediately shuts down. Which of the following is the MOST likely cause of this issue?

- A. The video card was installed in the wrong PCIe slot.
- B. The CPU heat sink was attached without adequate thermal paste.
- C. The SSD drives do not have enough Pagefile.
- D. The system does not have enough RAM for 4K video.

**Correct Answer: B**

**Section:**

**Explanation:**

Thermal paste is a substance that fills in any gaps between a CPU and its heat sink, which is a device that dissipates heat from the CPU. Without adequate thermal paste, the CPU may overheat and cause the system to shut down automatically to prevent damage. This is especially likely when running 4K video or games, which are more demanding and generate more heat. The technician should check if the CPU heat sink was attached properly and apply enough thermal paste to ensure good contact and heat transfer. Reference: <https://partners.comptia.org/docs/defaultsource/resources/a-core-series-combined-content-guide> (page 28)

**QUESTION 133**

Which of the following 802.11 Wi-Fi protocols utilizes the 5.0GHz frequency and has the BEST speed and reception?

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

**Correct Answer: B**

**Section:**

**Explanation:**

802.11 ax is a wireless networking protocol that utilizes the 5.0GHz frequency and has the best speed and reception among the options given. 802.11 ax offers higher data rates, lower latency, increased capacity, and improved power efficiency than previous protocols. It is also known as Wi-Fi 6 or High Efficiency Wireless (HEW). 802.11a also uses the 5.0GHz frequency, but it is an older protocol that has lower speed and reception than 802.11 ax. 802.11b/g/n use the 2.4GHz frequency, which is more crowded and prone to interference than the 5.0GHz frequency. 802.11n can use both frequencies, but it is also slower and less efficient than 802.11 ax. Reference:





**QUESTION 134**

A server administrator is building a new application server. Which of the following, RAID levels provides MAXIMUM performance and redundancy?

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

**Correct Answer: D**

**Section:**

**Explanation:**

RAID 10 is a combination of RAID 1 and RAID 0, which provides both performance and redundancy. RAID 1 mirrors data across two or more disks, while RAID 0 stripes data across two or more disks. RAID 10 combines these two methods to create a mirrored stripe set, which can tolerate multiple disk failures as long as they are not in the same mirror. RAID 10 requires at least four disks and offers better performance than RAID 5, which uses parity to provide redundancy. Reference:

<https://www.comptia.org/blog/what-is-raid-0-1-5-6-10>

**QUESTION 135**

A user submitted a help desk ticket to report that the Wi-Fi connection drops every time the microwave is used. A technician suspects the issue is related to interference. Which of the following should the technician do to provide the BEST long-term solution for the issue?

- A. Change the Wi-Fi operation channel.
- B. Configure the Wi-Fi AP to 5GHz.
- C. Increase the power output of the AP.
- D. Change the SSID to hidden.



**Correct Answer: B**

**Section:**

**Explanation:**

The issue is related to interference from the microwave, which operates at 2.4GHz, the same frequency as some Wi-Fi channels. To avoid this interference, the technician should configure the WiFi access point (AP) to use a 5GHz band, which has more channels and less interference from other devices. Changing the Wi-Fi operation channel may not solve the problem if the microwave interferes with multiple channels. Increasing the power output of the AP may not overcome the interference and may cause more interference to other devices. Changing the SSID to hidden does not affect the interference at all, and may make it harder for users to connect to the network.

Reference: <https://www.comptia.org/blog/what-is-wifi-6-and-why-is-it-important>

**QUESTION 136**

A customer reports that a printer is only printing misaligned images. Which of the following should the technician do to correct the issue?

- A. Clean the print heads.
- B. Perform a calibration.
- C. Replace the ink cartridge.
- D. Scan the document.

**Correct Answer: B**

**Section:**

**Explanation:**

Calibration is the process of adjusting the printer settings to ensure that the printed output matches the original document. Calibration can fix issues such as misaligned images, color accuracy, and print



quality.Reference:[Printer Calibration]

#### QUESTION 137

A technician is troubleshooting a wireless network issue. The users are all connected to the network, but the throughput is slow, and connections often drop. Which of the following should the technician check first?

- A. Encryption cipher
- B. Channel interference
- C. Number of connected devices
- D. Antenna type

**Correct Answer: B**

**Section:**

**Explanation:**

The first thing that the technician should check when troubleshooting a wireless network issue with slow throughput and frequent connection drops is the channel interference. Channel interference is a common cause of poor Wi-Fi performance, as it occurs when multiple wireless networks or devices use the same or overlapping frequency bands, resulting in signal degradation, congestion, or collision. Channel interference can affect both 2.4 GHz and 5 GHz networks, but it is more likely to happen on the 2.4 GHz band, as it has fewer and narrower channels than the 5 GHz band.

To check for channel interference, the technician can use a Wi-Fi analyzer tool, such as the ones found in the web search results<sup>123</sup>, to scan the wireless environment and identify the best channel to use for the network. A Wi-Fi analyzer tool can display various information, such as the network name (SSID), signal strength (RSSI), channel number, frequency, bandwidth, and security type. The technician can look for the following indicators of channel interference:

**High network density:** If there are many wireless networks or devices in the vicinity, they may compete for the same or adjacent channels, causing interference and congestion. The technician can look for the number of networks or devices on each channel and avoid the crowded ones.

**Channel overlap:** If there are wireless networks or devices that use the same or partially overlapping channels, they may interfere with each other and degrade the signal quality. The technician can look for the channel width and frequency of each network and avoid the overlapping ones. For example, on the 2.4 GHz band, the technician should use only the non-overlapping channels 1, 6, and 11, and avoid the channels in between.

**Signal interference:** If there are other sources of electromagnetic radiation or noise that operate on the same or similar frequency bands as the wireless network, they may interfere with the wireless signals and cause distortion or loss. The technician can look for the signal strength and quality of each network and avoid the ones that are weak or noisy. For example, some common sources of signal interference are microwave ovens, cordless phones, Bluetooth devices, or baby monitors.

To fix the channel interference issue, the technician can try the following solutions:

**Change the channel of the wireless network:** The technician can use the Wi-Fi analyzer tool to find the least congested and most optimal channel for the network, and then change the channel settings on the router or the access point. The technician should also consider using the 5 GHz band instead of the 2.4 GHz band, as it offers more and wider channels and less interference.

**Relocate the router or the access point:** The technician can move the router or the access point to a different location, away from potential sources of interference or obstacles that may block or weaken the wireless signals, such as walls, furniture, or metal objects. The technician should also place the router or the access point in a central and elevated position, to provide better coverage and signal quality for the network.

**Upgrade the router or the access point:** The technician can replace the router or the access point with a newer and more advanced model, that supports the latest Wi-Fi standards, such as Wi-Fi 6 (802.11ax) or Wi-Fi 5 (802.11ac). These standards offer higher data rates, lower latency, and better performance in dense and noisy environments, compared to the older standards, such as Wi-Fi 4 (802.11n) or Wi-Fi 3 (802.11g).

How to Fix Wi-Fi Connection Drops - Lifewire<sup>4</sup>

How to Fix When Wi-Fi Keeps Disconnecting on Windows 115

How to Fix Wi-Fi Connection Drops - Lifewire<sup>6</sup>

How to Fix Wi-Fi Connection Drops - Lifewire<sup>7</sup>

How to Fix Wi-Fi Connection Drops - Lifewire<sup>8</sup>

#### QUESTION 138

A user's mobile phone is constantly running hot and has a short battery life. A technician replaces the battery in the phone, but the issue persists. Which of the following steps should the technician take next?

- A. Check the device for updates.
- B. Check the device for malware.
- C. Check the device for liquid damage.
- D. Check the device's charging adapter.

**Correct Answer: B**

**Section:**

**Explanation:**

The next step that the technician should take after replacing the battery in the phone is to check the device for malware. Malware is a malicious software that can infect the phone and cause various problems, such as overheating, battery drain, data theft, pop-up ads, or performance slowdowns. Malware can enter the phone through various sources, such as downloading apps from untrusted sources, clicking on suspicious links or attachments, or connecting to insecure Wi-Fi networks.

To check the device for malware, the technician can use a reputable antivirus or anti-malware app, such as the ones found in the web search results<sup>123</sup>. The technician can follow these steps:

Download and install the antivirus or anti-malware app from a trusted source, such as the Google Play Store or the Apple App Store.

Launch the app and grant it the necessary permissions to scan the device.

Run a full scan of the device and wait for the results.

If the app detects any malware, follow the app's instructions to remove or quarantine it.

Restart the device and check if the overheating and battery drain issues are resolved.

Other steps, such as checking the device for updates, checking the device for liquid damage, or checking the device's charging adapter, may not be relevant or effective for solving the overheating and battery drain issues caused by malware. Checking the device for updates may improve the security and performance of the device, but it may not remove the existing malware. Checking the device for liquid damage may reveal physical damage to the device, but it may not explain the constant overheating and battery drain. Checking the device's charging adapter may ensure the proper charging of the device, but it may not affect the device's temperature or battery life when it is not plugged in.

Best Android antivirus apps of 2023 | Tom's Guide<sup>1</sup>

Best iPhone antivirus apps in 2023 | TechRadar<sup>2</sup>

The best antivirus software for Android - AV-TEST<sup>3</sup>

#### **QUESTION 139**

Which of the following is the best example of SaaS?

- A. A company leases electric vehicles for all of its employees.
- B. An accountant pays an annual fee for the tools the company needs to work.
- C. A car breaks down, and the driver presses a button to call for help.
- D. A consultant hires a web developer to create a website.



**Correct Answer: B**

**Section:**

#### **QUESTION 140**

An IT technician is troubleshooting an issue with connecting a new laptop to a company's wireless network. Which of the following diagnostic steps should the technician take first?

- A. Review the network settings in the OS.
- B. Install the latest firmware updates on the WAPs.
- C. Increase the signal strength of the router.
- D. Reset the router and reconfigure the wireless settings.

**Correct Answer: A**

**Section:**

**Explanation:**

The first step in troubleshooting any network issue is to identify the problem and gather information from the user and the device. Reviewing the network settings in the OS can help the technician verify if the laptop is configured correctly to connect to the wireless network, such as the SSID, security type, password, IP address, DNS server, etc. This can also help the technician rule out any software or driver issues that might prevent the laptop from connecting to the network. This is a logical and simple step that can be done before attempting any other actions that might affect the network infrastructure or other devices.

CompTIA A+ 220-1101 -- 5.1 - How to Troubleshoot

CompTIA A+ Core 1: Troubleshooting Wired & Wireless Networks

CompTIA A+ Core 1 (220-1101) Certification Study Guide

**QUESTION 141**

Which of the following describes the difference between a DNS server and a DHCP server?

- A. DNS is used for address translation, while DHCP is used for IP address assignment.
- B. DNS is used for routing, while DHCP is used for name resolution.
- C. DNS only assigns private IP addresses, while DHCP only assigns public IP addresses.
- D. DNS is used to route traffic between networks, while DHCP is used to allocate subnets.

**Correct Answer: A**

**Section:**

**Explanation:**

DNS stands for Domain Name System, and it is a network service that translates human-readable names (such as [www.google.com](http://www.google.com)) into numerical IP addresses (such as 172.217.14.206) that identify the location of the web servers on the internet. DNS also allows reverse lookup, which means finding the domain name associated with a given IP address. DNS servers are responsible for maintaining a database of domain names and their corresponding IP addresses, and responding to queries from clients who want to resolve a name to an address or vice versa<sup>12</sup>.

DHCP stands for Dynamic Host Configuration Protocol, and it is a network service that automatically assigns IP addresses and other network configuration parameters (such as subnet mask, default gateway, DNS server, etc.) to devices that join a network. DHCP servers are responsible for managing a pool of IP addresses and leasing them to clients for a specified duration. DHCP servers also renew or release the IP addresses when the lease expires or the client disconnects from the network<sup>34</sup>.

The difference between DNS and DHCP is that DNS is used for address translation, which means converting domain names to IP addresses and vice versa, while DHCP is used for IP address assignment, which means providing IP addresses and other network settings to devices that need to communicate on a network.

DNS Configuration -- CompTIA A+ 220-1101 -- 2.6

DHCP Configuration - CompTIA A+ 220-1101 - 2.6 - Professor Messer IT Certification Training Courses

CompTIA A+ 220-1101 -- 2.6 - Professor Messer IT Certification ...

Courses for CompTIA A+: 220-1101: CompTIA A+ (Core 1) - Skillsoft

**QUESTION 142**

A technician is relocating a router access point farther away from the modem to optimize signal coverage for a SOHO client. Which of the following will the technician most likely use to complete the relocation? (Select two).

- A. Punchdown tool
- B. Crimper
- C. Clamp-style wire stripper
- D. Network tap
- E. Wi-Fi analyzer
- F. Loopback plug

**Correct Answer: B, E**

**Section:**

**Explanation:**

A crimper is a tool that is used to attach connectors to network cables, such as RJ-45 or RJ-11. A technician might need a crimper to create a longer cable for the router access point or to replace a damaged connector.

A Wi-Fi analyzer is a software or hardware tool that can scan and measure the wireless signal strength, interference, channel usage, and security of a Wi-Fi network. A technician might need a Wi-Fi analyzer to find the optimal location and configuration for the router access point to improve the signal coverage for the SOHO client.

Reference

\* [CompTIA A+ Core 1 (220-1001) Certification Study Guide], page 77

\* [CompTIA A+ Core 1 (220-1001) Certification Study Guide], page 82

\* [What is a Crimper?]

\* [What is a Wi-Fi Analyzer?]

**QUESTION 143**

A user reports being unable to access the network. A help desk technician notices an APIPA on the user's workstation. Which of the following services should the technician investigate first?

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

**Correct Answer: B**

**Section:**

**Explanation:**

DHCP (Dynamic Host Configuration Protocol) is a network service that automatically assigns IP addresses and other configuration parameters to devices that request them. DHCP simplifies the management of IP addresses and avoids conflicts and errors<sup>67</sup>. An APIPA (Automatic Private IP Addressing) is a feature of Windows that assigns a default IP address in the range of 169.254.x.x to a device when it cannot obtain a valid IP address from a DHCP server. An APIPA indicates that there is a problem with the DHCP service or the network connectivity between the device and the DHCP server<sup>89</sup>. Therefore, the technician should investigate the DHCP service first to check if it is running, configured correctly, and has enough available IP addresses to assign. The other services are not directly related to the IP address assignment. RADIUS (Remote Authentication Dial-In User Service) is a protocol that provides centralized authentication, authorization, and accounting for network access<sup>10</sup>. AAA (Authentication, Authorization, and Accounting) is a framework that controls the access and usage of network resources<sup>11</sup>. DNS (Domain Name System) is a service that resolves domain names into IP addresses<sup>12</sup>.

Reference

6: What is DHCP (Dynamic Host Configuration Protocol)? - Definition from WhatIs.com

7: How DHCP works - Windows Server | Microsoft Docs

8: What is APIPA (Automatic Private IP Addressing)? - Definition from WhatIs.com

9: How to Fix an IP Address Conflict

10: What is RADIUS (Remote Authentication Dial-In User Service)? - Definition from WhatIs.com

11: What is AAA (authentication, authorization, and accounting)? - Definition from WhatIs.com

12: What is DNS (Domain Name System)? - Definition from WhatIs.com

#### QUESTION 144

A user reports that a computer has been randomly shutting down without warning. Which of the following is the most likely cause of the issue?

- A. Corrupted OS
- B. Incompatible memory modules
- C. Overheated CPU
- D. Low system resources

**Correct Answer: C**

**Section:**

**Explanation:**

An overheated CPU is the most likely cause of a computer that has been randomly shutting down without warning. A CPU generates heat when it performs calculations, and if the heat is not dissipated properly, it can damage the CPU or cause it to malfunction. A computer that shuts down randomly is a common symptom of an overheated CPU, as the system tries to protect itself from further damage by shutting down or restarting.

The other options are not as likely to cause this issue. A corrupted OS may cause the computer to crash, display errors, or fail to boot, but it does not affect the CPU temperature or the system fan. Incompatible memory modules may cause the computer to beep, display a blue screen, or fail to recognize the installed RAM, but they do not cause the CPU to overheat or the system to shut down randomly. Low system resources may cause the computer to slow down, freeze, or display a low memory warning, but they do not affect the CPU temperature or the system fan.

To troubleshoot and resolve an overheated CPU issue, the user should check and clean the air vents, provide proper ventilation, apply thermal paste, replace the fan or the heat sink, or upgrade the CPU if necessary. The user 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 Objectives<sup>1</sup>

The Official CompTIA A+ Core 1 Student Guide (Exam 220-1101) eBook<sup>2</sup>

How to Troubleshoot Fan Issues | Dell US<sup>3</sup>

Why your laptop fan is loud and how to fix it | Asurion<sup>4</sup>

HP Notebook PCs - Fan is noisy and spins constantly (Windows)<sup>5</sup>

#### QUESTION 145

A graphic designer wants to upgrade to the fastest possible RAM for a desktop workstation. Which of the following types of RAM would be best for the designer to use?

- A. DDR2 SDRAM
- B. DDR3 SDRAM
- C. DDR4 SDRAM
- D. DDR5 SDRAM

**Correct Answer: D**

**Section:**

**Explanation:**

DDR5 SDRAM (Double Data Rate 5 Synchronous Dynamic Random-Access Memory) is the latest and fastest type of RAM for desktop workstations as of 2023. DDR5 SDRAM offers higher speeds, lower power consumption, greater capacity, and improved reliability than previous generations of DDR SDRAM. DDR5 SDRAM can operate at frequencies up to 8400 MHz, compared to 3200 MHz for DDR4 SDRAM, which means it can transfer data faster and more efficiently. DDR5 SDRAM also supports dual-channel memory, which allows two memory modules to work together and double the bandwidth. DDR5 SDRAM is compatible with the latest Intel and AMD processors that support the DDR5 standard.

The other options are not as fast or suitable for a desktop workstation. DDR2 SDRAM, DDR3 SDRAM, and DDR4 SDRAM are older and slower types of RAM that have lower frequencies, higher voltages, and lower capacities than DDR5 SDRAM. DDR2 SDRAM, DDR3 SDRAM, and DDR4 SDRAM are not compatible with the latest processors that support DDR5 SDRAM, and require different motherboards and slots. DDR2 SDRAM, DDR3 SDRAM, and DDR4 SDRAM are more suitable for older or budget systems that do not require high performance or memory-intensive applications.

The best RAM 2023: top memory for your PC1

The best RAM for gaming 2023: Blazing-fast speeds for your PC2

What RAM Speed Do I Need?[2023 Guide] - GamingScan3

Crucial RAM Memory for Desktop Computers4

#### QUESTION 146

During an OS migration, a technician is unable to find compatible current software for a specialized hardware device. Which of the following actions should the technician take to complete the migration?

- A. Restrict user access.
- B. Virtualize the application.
- C. Replace the PC.
- D. Upgrade the BIOS to UEFI.

**Correct Answer: B**

**Section:**

**Explanation:**

Virtualizing the application is the best action that a technician can take to complete the OS migration when there is no compatible current software for a specialized hardware device. Virtualizing the application means running the application in a virtual machine (VM) that emulates the previous OS environment that supports the application and the hardware device. This way, the technician can avoid the need to replace the PC or the hardware device, or to restrict user access to the application. Virtualizing the application also allows the technician to benefit from the new OS features and security updates, while maintaining the functionality and compatibility of the application and the hardware device.

The other options are not as effective or feasible for this scenario. Restricting user access may prevent unauthorized or accidental changes to the application or the hardware device, but it does not solve the compatibility issue or allow the OS migration to proceed. Replacing the PC or the hardware device may be costly, time-consuming, or impractical, especially if the hardware device is rare, expensive, or customized. Upgrading the BIOS to UEFI may improve the boot speed, security, and compatibility of the PC, but it does not guarantee that the application or the hardware device will work with the new OS.

CompTIA A+ Certification Exam Core 1 Objectives1

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

How to Run Old Programs on Windows 10 - MakeUseOf3

How to Run Windows 10 in a Virtual Machine - PCMag4

#### QUESTION 147

A technician is upgrading the power supply of a workstation that is running multiple GPUs in an SLI configuration. Which of the following cables is needed to ensure the power supply can support the workstation?

- A. 8-pin PCIe
- B. 4-pin Molex
- C. 4+4-pin ATX12V
- D. 8-pin ATX12V

**Correct Answer: A**

**Section:**

**Explanation:**

The 8-pin PCIe power cable is designed to supply power to a graphics card that requires more power than the PCIe slot can provide. A workstation that is running multiple GPUs in an SLI configuration would need this cable to ensure adequate power delivery and stability. The other cables are not suitable for this purpose, as they are either meant for the motherboard (4+4-pin ATX12V and 8-pin ATX12V) or for older devices (4-pin Molex)

<https://superuser.com/questions/849265/is-there-a-difference-between-8-pin-eps12v-and-pci-e-connectors>

#### QUESTION 148

A user dropped a laptop while it was turned on. The hard drive now makes a clicking sound, and the laptop will not start up. Which of the following most likely explains this situation?

- A. The hard drive bracket screws are loose.
- B. The hard drive jumpers need to be reseated.
- C. The hard drive is damaged.
- D. The SATA cable is loose.

**Correct Answer: C**

**Section:**

**Explanation:**

A clicking hard drive is usually a sign of a mechanical failure, where the read/write heads are not functioning properly or the platters are scratched or broken. This can be caused by physical shock, such as dropping the laptop while it was turned on. A damaged hard drive may not be able to boot up the operating system or access the data stored on it. This is a serious problem that requires data recovery and hard drive replacement.

Reference

Identifying Hard Drive Sounds and Determining What They Mean

Hard Drive Clicking? See How to Fix Click Hard Drive On Your Own

Chapter 3: Hardware

#### QUESTION 149

A company has implemented a policy that allows employees to use personal devices to perform work duties. Which of the following policies should the technician activate to protect company information?

- A. MFD
- B. MAM
- C. MFA
- D. MDM

**Correct Answer: D**

**Section:**

**Explanation:**

MDM (Mobile Device Management) is a policy that allows the technician to remotely manage, secure, and monitor the personal devices that employees use for work purposes. MDM can enforce security settings, such as passwords, encryption, and antivirus software, on the personal devices. MDM can also remotely wipe or lock the devices in case of loss, theft, or termination of employment. MDM can protect company information by preventing unauthorized access, data leakage, or malware infection on the personal devices.

Reference

What is Mobile Device Management (MDM)?

Chapter 2: Networking



**QUESTION 150**

A user's phone overheated earlier in the day, which caused the battery to expand in the case Which of the following should the technician advise the user to do first?

- A. Replace the phone's SIM card
- B. Check the phone's health status
- C. Turn off the phone
- D. Disable VPN on the phone

**Correct Answer: C**

**Section:**

**Explanation:**

When a phone's battery overheats and expands, it poses a significant safety risk, including the potential for fire or the battery bursting. The first and most critical action is to turn off the device to prevent further chemical reactions within the battery that could exacerbate the situation. Turning off the phone halts its operations, minimizing the heat generation and reducing the risk of further damage or danger. This is a precautionary measure to ensure the user's safety and to prevent any additional harm to the phone itself. It's important for the user to not attempt to charge or use the phone in this condition and to seek professional help or replacement of the battery or device as needed.

Reference: Mobile Devices 1101.docx, Safety and Environmental Concerns section.

**QUESTION 151**

A technician is setting up a home network with the following requirements:

- \* Automatic distribution of IP addresses
- . Internet access

Which of the following should the technician configure? (Select two).

- A. DHCP
- B. APIPA
- C. VPN
- D. Public IP addresses
- E. Gateway
- F. Static IP addresses

**Correct Answer: A, E**

**Section:**

**Explanation:**

DHCP (Dynamic Host Configuration Protocol) is a protocol that allows a device to automatically obtain an IP address and other network settings from a DHCP server, such as a home router. This simplifies the network configuration and avoids IP address conflicts. DHCP is a common requirement for home networks that have multiple devices that need Internet access.

A gateway is a device that connects two different networks, such as a home network and the Internet. A gateway usually performs routing functions, which means it determines the best path for packets to reach their destination. A gateway also often performs NAT (Network Address Translation), which allows multiple devices on a home network to share a single public IP address. A gateway is a necessary requirement for home networks that need Internet access.

Reference

Understanding DHCP on Home Networks

Basic home gateway services: DHCP, DNS, NAT

IP Addresses on Home Networks -- A Beginner's Guide

**QUESTION 152**

A technician is troubleshooting a phone with limited internet connectivity. The technician has identified the phone on the Wi-Fi network and confirmed that it responds to pings. However, the phone is still unable to open [comptia.org](http://comptia.org). Which of the following should the technician check next?

- A. Jailbreak status



- B. DNS servers
- C. Airplane mode
- D. Certificate store

**Correct Answer: B**

**Section:**

**Explanation:**

DNS servers are responsible for translating domain names into IP addresses, which are used to access websites. If the phone has limited internet connectivity, it might be because the DNS servers are not working properly or are blocked by the network. The technician should check the DNS settings on the phone and try to use a different DNS server, such as Google DNS (8.8.8.8 or 8.8.4.4) or Cloudflare DNS (1.1.1.1 or 1.0.0.1).

Reference

- \* 9 Best Ways to Fix Wi-Fi Showing Limited Connectivity in Android
- \* 7 Easy Ways to Fix Limited Wi-Fi Connectivity on Android
- \* How to Fix Limited Connectivity Issue in Android Wi-Fi

#### QUESTION 153

A user reports a workstation is having the following issues:

- \* OS performance is slow
- . The workstation turns off randomly from time to time
- . The fans are running loudly

Which of the following is most likely the cause?

- A. The system is infected with malware.
- B. The CPU is overheating.
- C. The hard drive is failing.
- D. The power supply is insufficient.

**Correct Answer: B**

**Section:**

**Explanation:**

One of the possible causes of slow OS performance, random shutdowns, and loud fan noise is the CPU overheating. This can happen due to dust accumulation, faulty cooling system, or high CPU usage. Overheating can damage the CPU and other components, so it is important to monitor the CPU temperature and take preventive measures.

The Official CompTIA A+ Core 1 Student Guide (Exam 220-1101) eBook1, page 2-9, section "CPU Cooling Methods".

The Official CompTIA A+ Core 1 (220-1101) Certification Study Guide2, page 2-11, section "Troubleshooting CPUs".

#### QUESTION 154

A technician is asked to set up a new laptop for a coworker. Which of the following storage devices and interfaces will provide the best performance? (Select two).

- A. 15,000rpm HDD
- B. M.2 SSD
- C. 10,000rpm HDD
- D. NVMe interface
- E. SATA interface
- F. mSATA interface

**Correct Answer: B, D**

**Section:**

**Explanation:**



M.2 SSD and NVMe interface are the best options for storage devices and interfaces that provide the best performance. M.2 SSD is a form factor that allows for faster data transfer and lower power consumption than traditional SATA SSDs. NVMe is a protocol that enables direct communication between the SSD and the PCIe bus, bypassing the SATA controller and reducing latency and overhead. Together, they offer the highest speed and efficiency for storage devices.

The Official CompTIA A+ Core 1 Student Guide (Exam 220-1101) eBook1, page 3-17, section "M.2 Interface".

The Official CompTIA A+ Core 1 (220-1101) Certification Study Guide2, page 3-21, section "NVMe".

#### QUESTION 155

After an IT department implements SSL redirection, users report being unable to access a random number generator opened within a web browser. Which of the following should a technician do first to troubleshoot this issue?

- A. Ensure that the computer supports secure socket communication.
- B. Report the affected user accounts to the IT department.
- C. Reset the web browser cache.
- D. Check to see whether the website is HTTPS enabled.

**Correct Answer: D**

**Section:**

**Explanation:**

The first step to troubleshoot this issue is to check if the website that hosts the random number generator is HTTPS enabled. This means that the website supports secure communication using SSL certificates and encryption. If the website is not HTTPS enabled, it may not be compatible with the SSL redirection implemented by the IT department. SSL redirection is a technique that automatically redirects HTTP requests to HTTPS, ensuring that the data exchanged between the web browser and the website is protected. However, some websites may not have SSL certificates or may have expired or invalid ones, which can cause errors or warnings when trying to access them via HTTPS. Therefore, the technician should check the website's URL and see if it starts with `https://` or `http://`. If it is the latter, the technician should try to manually change it to `https://` and see if the website loads correctly. If it does not, the technician should contact the website owner or administrator and ask them to enable HTTPS or update their SSL certificates.

Some additional references for the answer are:

[How To Fix HTTP and HTTPS Redirect Issue | Sitechecker](#)

[Nginx SSL Certificate and HTTPS Redirect Errors | DigitalOcean](#)

[ERR\\_TOO\\_MANY\\_REDIRECTS \\* Cloudflare SSL/TLS docs](#)

[How to Fix SSL Redirect Loop | Hostinger Help Center](#)



#### QUESTION 156

Which of the following is most likely used to control door access?

- A. DMCA
- B. DRM
- C. RFID
- D. VPN

**Correct Answer: C**

**Section:**

**Explanation:**

RFID stands for Radio Frequency Identification, and it is a technology that uses electromagnetic fields to identify and track objects that have RFID tags attached to them. RFID tags are small devices that store information and can be read by RFID readers. RFID is most likely used to control door access because it allows for contactless and convenient authentication of authorized personnel. For example, an employee can use an RFID card or key fob to unlock a door by holding it near an RFID reader installed on the door. The reader will scan the tag and verify its ID number with the access control system, which will grant or deny access based on the predefined rules and permissions. RFID is a common and widely used type of door access control system, as it offers security, efficiency, and flexibility.

Some additional references for the answer are:

[IP Door Access Control - Kintronics](#)

[Door Access Control: A Complete Guide | Swiftlane](#)

[Best Door Access Control System: How It Works & Features - ButterflyMX](#)

#### QUESTION 157

A technician is attempting to log in to a local company portal. When the technician types the URL into the address bar, the browser is unable to resolve and display the web page. The technician tries at another workstation, and the result is the same. Other web pages are not having any issues. Which of the following should the technician check first?

- A. DHCP reservations
- B. Static IP addresses
- C. Default gateway
- D. DNS entries

**Correct Answer: D**

**Section:**

**Explanation:**

The technician is unable to access the company portal website, but other websites work fine. This suggests an issue with resolving the specific URL of the company portal, which is a function of DNS.

Here's why other options are not the most likely cause:

DHCP reservations: This is not relevant as the issue persists even when the technician tries a different workstation, indicating a problem beyond individual device configuration.

Static IP addresses: Similar to DHCP reservations, static IPs are not likely the cause as both affected workstations are experiencing the issue.

Default gateway: While the default gateway is necessary for internet access, other websites are working, making it less likely to be the root cause.

CompTIA A+ Certification Core 1 220-1101 Study Guide, Chapter 4: Networking, Section 4.2 Addressing and Naming

#### QUESTION 158

A technician is replacing the toner cartridge in a laser printer. Which of the following steps should the technician complete first? (Select two).

- A. Check the expiration date of the cartridge.
- B. Ensure the cartridge is the correct model.
- C. Open the toner compartment.
- D. Remove the sealing tape.
- E. Run the cleaning utility.
- F. Calibrate the printer.



**Correct Answer: B, C**

**Section:**

**Explanation:**

The technician is unable to access the company portal website, but other websites work fine. This suggests an issue with resolving the specific URL of the company portal, which is a function of DNS.

Here's why other options are not the most likely cause:

DHCP reservations: This is not relevant as the issue persists even when the technician tries a different workstation, indicating a problem beyond individual device configuration.

Static IP addresses: Similar to DHCP reservations, static IPs are not likely the cause as both affected workstations are experiencing the issue.

Default gateway: While the default gateway is necessary for internet access, other websites are working, making it less likely to be the root cause.

CompTIA A+ Certification Core 1 220-1101 Study Guide, Chapter 4: Networking, Section 4.2 Addressing and Naming

#### QUESTION 159

A user keeps a company-provided camera's battery charger plugged into a docking station at a desk. Company policy requires that USB devices be identified and approved by installed peripheral security software. A technician is unable to add a unique identifier to the battery charger's security software. Which of the following should the technician do?

- A. Provide a USB to AC adapter for the battery charger.
- B. Add a powered USB hub to the docking station.
- C. Disable the peripheral security software for this user only.
- D. Replace the battery charger with a USB device that has a unique identifier.

**Correct Answer: A**

**Section:**

**Explanation:**

The problem in this scenario is that the battery charger is not a USB device, but a device that plugs into a USB port to draw power. Therefore, it does not have a unique identifier that can be recognized by the peripheral security software, which is designed to prevent unauthorized USB devices from accessing the company's network or data. The security software cannot add the battery charger to its whitelist, and may block its power supply or generate alerts.

The best solution for this problem is to provide a USB to AC adapter for the battery charger, which is a device that converts the USB power output to an AC power input that can be plugged into a wall outlet. This way, the battery charger does not need to connect to the docking station or the computer, and does not trigger the peripheral security software. The user can still charge the camera's battery without compromising the company's security policy.

The other options are not advisable because they either do not solve the problem or create new risks. Option B, adding a powered USB hub to the docking station, may not work if the security software also monitors the hub's ports and detects the battery charger as an unknown device. Option C, disabling the peripheral security software for this user only, is a very bad idea because it exposes the user's computer and the company's network to potential attacks from malicious USB devices. Option D, replacing the battery charger with a USB device that has a unique identifier, is unnecessary and costly, and may not be compatible with the camera's battery.

CompTIA A+ Core 1 (220-1101) Certification Study Guide, Chapter 9: Security, Section 9.3: Device Security, Page 419

CompTIA A+ Core 1 (220-1101) and Core 2 (220-1102) Pearson uCertify Course and Labs and Textbook Bundle, Chapter 9: Security, Section 9.3: Device Security, Page 420

CompTIA A+ Core 1 (220-1101) and Core 2 (220-1102) Exam Cram, Chapter 9: Security, Section 9.3: Device Security, Page 402

#### **QUESTION 160**

A technician is mitigating threats to web clusters. Which of the following tools is the most appropriate for a technician to use to mitigate unwanted traffic against the web clusters' public-facing interface?

- A. Device encryption
- B. Intrusion detection system
- C. Antivirus/anti-malware
- D. Physical firewall

**Correct Answer: D**

**Section:**

**Explanation:**

A physical firewall is a hardware device that filters and blocks unwanted or malicious traffic from entering or leaving a network. A physical firewall can be configured with rules and policies to allow or deny traffic based on various criteria, such as source and destination IP addresses, ports, protocols, applications, etc. A physical firewall can also provide logging and monitoring capabilities to detect and prevent network attacks<sup>12</sup>.

A physical firewall is the most appropriate tool for a technician to use to mitigate threats to web clusters, which are groups of web servers that work together to provide high availability and scalability for web applications. Web clusters are often exposed to the internet and face various types of threats, such as denial-of-service (DoS) attacks, brute force attacks, SQL injection attacks, cross-site scripting (XSS) attacks, etc. A physical firewall can protect the web clusters' public-facing interface by filtering and blocking the unwanted or malicious traffic before it reaches the web servers, thus reducing the risk of compromise or downtime<sup>34</sup>.

The other options are not as effective or relevant as a physical firewall for mitigating threats to web clusters. Device encryption is a process of transforming data into an unreadable form using a secret key, which can prevent unauthorized access to the data if the device is lost or stolen. However, device encryption does not prevent network attacks or filter traffic, and it may not apply to web clusters that use shared storage or cloud services.

Intrusion detection system (IDS) is a software or hardware tool that monitors network traffic and alerts the administrator of any suspicious or malicious activity. However, IDS does not block or filter traffic, and it may not be able to prevent or stop an attack in progress. IDS is often used in conjunction with a firewall, not as a replacement. Antivirus/anti-malware is a software tool that scans and removes viruses, worms, trojans, spyware, ransomware, and other malicious software from a device. However, antivirus/anti-malware does not filter or block network traffic, and it may not be able to detect or prevent some web-based attacks, such as XSS or SQL injection. Antivirus/anti-malware is also often used in conjunction with a firewall, not as a replacement.

CompTIA A+ Core 1 (220-1101) Certification Study Guide, Chapter 5: Networking, Section 5.4: Network Devices, Page 233

CompTIA A+ Core 1 (220-1101) and Core 2 (220-1102) Exam Cram, Chapter 5: Networking, Section 5.4: Network Devices, Page 197

CompTIA A+ Core 1 (220-1101) and Core 2 (220-1102) Pearson uCertify Course and Labs and Textbook Bundle, Chapter 5: Networking, Section 5.4: Network Devices, Page 234

CompTIA A+ Core 1 (220-1101) and Core 2 (220-1102) Cert Guide, Chapter 5: Networking, Section 5.4: Network Devices, Page 205

CompTIA A+ Core 1 (220-1101) Certification Study Guide, Chapter 9: Security, Section 9.3: Device Security, Page 419

CompTIA A+ Core 1 (220-1101) Certification Study Guide, Chapter 9: Security, Section 9.4: Network Security, Page 431

CompTIA A+ Core 1 (220-1101) Certification Study Guide, Chapter 9: Security, Section 9.5: Malware and Threats, Page 443

#### **QUESTION 161**

A technician is setting up storage in a server that only has SAS connectors for storage. The technician wants the server to utilize RAID 10 for increased performance. Which of the following storage types should the technician install?



- A. NVMe M.2
- B. Mechanical
- C. mSATA
- D. Optical

**Correct Answer: B**

**Section:**

**Explanation:**

SAS stands for Serial Attached SCSI, which is a type of interface that connects storage devices to servers or workstations. SAS supports both mechanical hard disk drives (HDDs) and solid state drives (SSDs), but not other types of storage devices, such as NVMe M.2, mSATA, or optical drives<sup>12</sup>.

RAID stands for Redundant Array of Independent Disks, which is a method of combining multiple storage devices into a logical unit that provides improved performance, reliability, or both. RAID 10 is a combination of RAID 1 (mirroring) and RAID 0 (striping), which means that data is written across two or more striped sets of mirrored drives<sup>34</sup>.

Therefore, the only type of storage device that the technician can install in a server that only has SAS connectors and wants to use RAID 10 is mechanical HDDs. Mechanical HDDs use spinning platters and moving heads to store and access data, and they are usually cheaper and have larger capacities than SSDs, but they are also slower and more prone to failure .

CompTIA A+ Core 1 (220-1101) Certification Study Guide, Chapter 3: Hardware, Section 3.3: Storage Devices, Page 131

CompTIA A+ Core 1 (220-1101) and Core 2 (220-1102) Exam Cram, Chapter 3: Storage, Section 3.2: Storage Interfaces, Page 97

CompTIA A+ Core 1 (220-1101) Certification Study Guide, Chapter 3: Hardware, Section 3.4: RAID, Page 143

CompTIA A+ Core 1 (220-1101) and Core 2 (220-1102) Exam Cram, Chapter 3: Storage, Section 3.4: RAID, Page 104

CompTIA A+ Core 1 (220-1101) Certification Study Guide, Chapter 3: Hardware, Section 3.3: Storage Devices, Page 129

CompTIA A+ Core 1 (220-1101) and Core 2 (220-1102) Exam Cram, Chapter 3: Storage, Section 3.3: Hard Disk Drives, Page 99

#### QUESTION 162

Which of the following network types is used for pairing a Bluetooth device to a smartphone?

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

**Correct Answer: A**

**Section:**

**Explanation:**

A PAN, or Personal Area Network, is the network type that is used for pairing a Bluetooth device to a smartphone. A PAN is a network that connects personal devices, such as phones, tablets, laptops, headphones, speakers, or printers, over a short distance, usually less than 10 meters or 33 feet. A PAN can use wireless technologies, such as Bluetooth, Wi-Fi, or infrared, to enable communication and data exchange between the devices. A Bluetooth PAN, also known as a piconet, can consist of up to eight devices, one of which acts as the master and the others as slaves. The master device initiates the pairing process with the other devices and controls the data transmission. The devices use radio waves in the 2.4 GHz frequency band to communicate with each other. Bluetooth is a low-power, low-cost, and secure technology that is widely used for creating PANs.

What Is Bluetooth Wireless Networking?<sup>1</sup>

Bluetooth - GeeksforGeeks<sup>2</sup>

Bluetooth | Institute of Physics<sup>3</sup>

6 Different Types of Bluetooth Devices - TechJeny<sup>4</sup>

#### QUESTION 163

A technician is relocating a router access point farther away from the modem to optimize signal coverage for a SOHO client. Which of the following will the technician most likely use to complete the relocation? (Select two).

- A. Punchdown tool
- B. Crimper
- C. Clamp-style wire stripper



- D. Network tap
- E. Wi-Fi analyzer
- F. Loopback plug

**Correct Answer: B, C**

**Section:**

**Explanation:**

A crimper and a clamp-style wire stripper are tools most likely needed to complete the relocation of a router access point. The crimper is used to attach RJ45 connectors to Ethernet cables, which is essential when creating custom-length cables for precise placement of the router access point. The clamp-style wire stripper is used to strip the insulation from the twisted-pair wiring without damaging the wires, preparing them for crimping. These tools are fundamental for network cable management and modifications, aligning with the network infrastructure setup and modifications detailed in the CompTIA A+ Core 1 (220-1101) Exam Objectives under sections related to networking and hardware troubleshooting .

#### **QUESTION 164**

A computer with a recently replaced CPU will not pass POST. When inspecting the inside of the computer, the technician sees several shorts on the motherboard near the location of the CPU. Which of the following is most likely the cause of this issue?

- A. The incorrect heat sink was used on the CPU.
- B. Too much thermal paste was applied to the CPU.
- C. The power supply was undersized for the CPU.
- D. The CPU is not receiving any power from the motherboard.

**Correct Answer: A**

**Section:**

**Explanation:**

The issue described in the scenario is most likely caused by the incorrect heat sink being used on the CPU. The heat sink plays a critical role in dissipating heat from the CPU to prevent overheating. If the incorrect heat sink is used, it may not fit properly, leading to insufficient contact with the CPU. This can cause inadequate heat transfer, resulting in the CPU overheating. Overheating can lead to thermal stress on the motherboard, potentially causing shorts near the CPU location as the excessive heat can damage the motherboard's circuits and components.

CompTIA A+ Core 1 (220-1101) Exam Objectives, Section 3.0 Hardware, specifically the subsection on cooling mechanisms and their importance in maintaining the optimal operating temperature for CPU and other components.

General knowledge on the importance of proper heat dissipation in preventing hardware damage, particularly in scenarios involving CPU replacements and upgrades.

#### **QUESTION 165**

An engineer is building a workstation that requires the following components:

- \* An ATX motherboard
- \* A multi-core processor
- \* A dedicated graphics solution
- \* A SATA hard drive
- \* DDR4 memory

Which of the following power supply specifications would meet the workstation criteria?

- A. 12V, 500W output
- B. SFX, 18-pin connector
- C. DC input
- D. Type A socket

**Correct Answer: A**

**Section:**

**Explanation:**

The appropriate power supply specification for the described workstation setup is 12V, 500W output. This specification ensures that the power supply can handle the combined power requirements of an ATX motherboard, multi-core processor, dedicated graphics solution, SATA hard drive, and DDR4 memory. The 12V rail is crucial for components such as the CPU and graphics card, while a 500W output provides sufficient power overhead to support the system under load, as well as potential future upgrades or additional components.

CompTIA A+ Core 1 (220-1101) Exam Objectives, Section 3.0 Hardware, specifically the subsection on power supplies and their specifications, including voltage outputs and wattage requirements for various computer components.

General knowledge on the power requirements of ATX motherboards, multi-core processors, dedicated graphics cards, SATA hard drives, and DDR4 memory, ensuring compatibility and efficient operation.

#### QUESTION 166

When a user tries to print a document on a laser printer, vertical lines appear on the printout. Which of the following should the technician replace?

- A. Mirror
- B. Fuser
- C. Drum
- D. Toner

**Correct Answer: C**

**Section:**

**Explanation:**

Vertical lines on a laser printer printout are most commonly associated with issues in the drum unit. The drum is a crucial component in the laser printing process, where it receives an electrostatic image of the document to be printed and transfers toner to the paper. If there are defects or damage to the drum's surface, it can result in vertical lines appearing on the printed output as the drum fails to evenly distribute toner across the page.

CompTIA A+ Core 1 (220-1101) Exam Objectives, Section 3.6 Hardware, particularly the part about laser printers and the significance of each component in the printing process, emphasizing the drum's role in image transfer. Understanding of laser printer operation, specifically the function of the drum unit and common issues that can affect print quality.

#### QUESTION 167

A customer is having an issue printing documents. The customer can print a text document without any issue. However, when the customer prints a PDF containing images, the job fails and no other jobs will run until the computer is rebooted. Which of the following is the most likely cause of the issue?

- A. The firmware is EOL.
- B. The printer is using a PostScript driver.
- C. The user is sending too many documents.
- D. The print queue is moving too slowly.

**Correct Answer: B**

**Section:**

**Explanation:**

Printers that use PostScript drivers are designed to handle complex printing tasks, including detailed graphics and images in PDF files. However, if the printer's PostScript driver is outdated, incompatible, or improperly configured, it may struggle to process and print PDF files containing images. Updating or reinstalling the PostScript driver, or choosing a different driver compatible with the printer and document type, can resolve this issue.

#### QUESTION 168

A company needs to secure remote user data with minimal interaction. Which of the following should the company do?

- A. Configure self-encrypting hardware.
- B. Update firewall rule sets.
- C. Enable BIOS passwords.
- D. Remove physical ROM drives.

**Correct Answer: A**

**Section:**

**Explanation:**

Self-encrypting hardware, such as self-encrypting drives (SEDs), provides an effective solution for securing data with minimal user interaction. SEDs automatically encrypt all data stored on the drive without requiring any special software or user action, ensuring that data remains protected even if the drive is removed from the device. This feature is particularly beneficial for remote users who may not consistently follow manual encryption procedures, offering a seamless and user-transparent method to secure sensitive data.

**QUESTION 169**

A company has implemented a policy that allows employees to use personal devices to perform work duties. Which of the following policies should the technician activate to protect company information?

- A. MFD
- B. MAM
- C. MFA
- D. MDM

**Correct Answer: D**

**Section:**

**Explanation:**

Mobile Device Management (MDM) policies are crucial for companies that allow employees to use personal devices for work duties. MDM enables the company to enforce security policies, manage and secure corporate data on personal devices, and ensure compliance with company standards. It allows for remote management of these devices, including the ability to remotely wipe company data if the device is lost or stolen, without impacting personal data, thereby protecting company information effectively.

**QUESTION 170**

A user recently connected multiple monitors to a dock and would like to use the monitors as an extended laptop display. Which of the following connection methods would be best to use to connect the dock to the laptop?

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



**Correct Answer: D**

**Section:**

**Explanation:**

USB-C is the best connection method to use to connect the dock to the laptop because it supports multiple display outputs, data transfer, audio, and power delivery with a single cable. USB-C can also be compatible with Thunderbolt 3 or DisplayPort over USB-C docking stations, which offer even higher performance and versatility. USB-C is also a reversible connector, which makes it easy and convenient to use.

The Official CompTIA A+ Core 1 Student Guide (Exam 220-1101), Chapter 2: Configure and Support PC Components, Section 2.5: Compare and contrast various connection interfaces and explain their purpose, Page 941

How to Connect and Set Up a Docking Station With a Dell Laptop2

How to Dock a Laptop (with Pictures) - wikiHow3

How To Connect Two Laptops To One Docking Station4

**QUESTION 171**

Which of the following is the maximum distance Cat 5, Cat 5e, Cat 6, and Cat 6a cables can be ran?

- A. 295ft (90m)
- B. 328ft (100m)
- C. 361ft (110m)
- D. 394ft (120m)

**Correct Answer: B**

**Section:**

**Explanation:**

The maximum distance that Cat 5, Cat 5e, Cat 6, and Cat 6a cables can be ran is 100 meters or 328 feet, according to the TIA/EIA standards. This is the maximum length for a cable segment, which is the distance between two devices, such as a switch and a computer, or a router and a printer. If the cable segment exceeds this length, the signal quality may degrade and cause errors or loss of data. Therefore, it is important to measure the cable length before installation and use repeaters or extenders if necessary.

Reference

1Cable Distance | Comms InfoZone

2Discussing Cat5 and Cat6 Max Length Limits - ShowMeCables

3Cat5e vs Cat6 - Difference and Comparison | Diffen

**QUESTION 172**

A user reports that a laptop's display is too dim. Which of the following should a technician try first to troubleshoot the issue?

- A. Check the refresh rate of the laptop display and adjust it if necessary.
- B. Make sure the correct cables are being used for the connection.
- C. Check the settings of the laptop display.
- D. Make sure the video card driver is updated.
- E. Check the resolution of the laptop display.

**Correct Answer: C**

**Section:**

**Explanation:**

The first step to troubleshoot a dim laptop display is to check the settings of the laptop display, such as the brightness level, the power plan, and the adaptive brightness feature. These settings can affect the brightness of the screen and can be adjusted by the user or by Windows automatically. If the settings are not optimal for the user's preference or environment, the screen may appear too dim even at full brightness. Therefore, the technician should check and modify these settings before trying other solutions.

The Official CompTIA A+ Core 1 Student Guide (Exam 220-1101), Chapter 2: Configure and Support PC Components, Section 2.5: Compare and contrast various connection interfaces and explain their purpose, Page 941

Why Is My Screen So Dark on Full Brightness: 6 Fixes to Use2

**QUESTION 173**

After a new network printer is installed and added to the print server, users are unable to install the printer. However, the technician is able to install the printer when logged in to a user's computer as an administrator. Which of the following is the best option to allow all users to print to the new printer?

- A. Install all applicable print drivers on the print server.
- B. Map the users to a print share for driver installation.
- C. Give all users temporary administrator rights to install the new printer.
- D. Remotely log in to all users' computers and install the printer.

**Correct Answer: A**

**Section:**

**Explanation:**

The best option to allow all users to print to the new network printer is to install all applicable print drivers on the print server. This way, the print server can automatically provide the correct driver to the client computers when they connect to the printer. This option also reduces the administrative overhead and security risks of the other options, which involve either granting users more privileges, mapping them to a shared folder, or remotely accessing their computers.

Reference 1CompTIA A+ Core 1 (220-1101) Certification Study Guide, Chapter 16: Installing and Configuring Printers, page 419. 2The Official CompTIA A+ Core 1 Instructor Guide (Exam 220-1101), Lesson 16: Installing and Configuring Printers, page 16-7. 3CompTIA A+ Core 1 (220-1101) Complete Video Course, Lesson 16: Installing and Configuring Printers, Video 16.2: Installing and Configuring Network Printers.

**QUESTION 174**

The SSD in a user's computer failed. A technician is replacing the SSD and would like to mitigate future failures given the user often runs many programs. Which of the following is the best solution?

- A. Increase the amount of virtual memory in the OS.
- B. Turn on Windows BitLocker.
- C. Virtualize the user's programs.
- D. Upgrade the amount of RAM in the computer.

**Correct Answer: D**

**Section:**

**Explanation:**

Upgrading the RAM in the computer can significantly mitigate the potential for SSD failures for users who run many programs simultaneously. When a system runs out of RAM, it uses a portion of the SSD as virtual memory, which can increase the wear and tear on the SSD due to excessive read and write operations. By increasing the RAM, the system can accommodate more programs in the physical memory, reducing reliance on the SSD for virtual memory and hence reducing the wear on the SSD. This approach aligns with best practices for ensuring system stability and longevity, as indicated in the CompTIA A+ Core 1 (220-1101) Exam Objectives under sections 3.2 'Given a scenario install the appropriate RAM' and 5.0 'Hardware and Network Troubleshooting' .

#### QUESTION 175

A technician is trying to set up a computer to dual boot from both Windows and Linux. The technician believes that a setting is preventing the computer from accessing the flash drive with the OS image prior to loading the OS. Which of the following settings should the technician check?

- A. PXE
- B. UEFI
- C. ACL
- D. TPM

**Correct Answer: B**

**Section:**

**Explanation:**

The Unified Extensible Firmware Interface (UEFI) is the setting that should be checked when a computer is not booting from a flash drive containing an OS image. UEFI is a modern firmware that replaces the traditional BIOS and includes a 'Secure Boot' feature that can prevent unauthorized operating systems from loading during the system's boot process. This security feature might be the reason the computer cannot access the flash drive before loading the OS. Disabling Secure Boot or adjusting the boot order within the UEFI settings can allow the system to boot from the flash drive. This is supported by the CompTIA A+ Core 1 (220-1101) Exam Objectives, particularly in sections 1.4 'Given a scenario set up and configure accessories and ports of mobile devices' and 4.0 'Virtualization and Cloud Computing', emphasizing the importance of UEFI settings in boot processes and virtualization .

#### QUESTION 176

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 successfully resolving a log-on issue by resetting the password, the next step should be to document the findings. This documentation is crucial for maintaining a record of the problem and the solution, which can be useful for future reference if similar issues arise. It also ensures that any changes made to the system or user account are recorded, which is essential for maintaining the integrity and security of IT systems. This step is in line with the CompTIA A+ best practice methodology for resolving problems, as outlined in the CompTIA A+ Core 2 (220-1102) Exam Objectives, particularly in section 4.0 'Operational Procedures', which emphasizes the importance of documentation in managing and configuring security settings and operational procedures.

**QUESTION 177**

A user reports that a display is slow to turn on, and the colors are distorted and discolored. Once the display turns on, it appears to have lines going through the image and intermittently goes blank. Which of the following is the most likely cause of the issue?

- A. Incorrect data source
- B. Incorrect resolution settings
- C. Physical cabling issues
- D. Incorrect refresh rate
- E. Display burn-in

**Correct Answer: C**

**Section:**

**Explanation:**

Physical cabling issues are the most likely cause of the display problems described. Loose, damaged, or faulty cables can cause intermittent signal loss, leading to a slow response, color distortion, lines on the display, and intermittent blanking. Checking and securing the connections or replacing the cable can resolve these issues. This aligns with the troubleshooting steps outlined in the CompTIA A+ Core 1 (220-1101) Exam Objectives under section 4.0 'Virtualization and Cloud Computing' and 5.0 'Hardware and Network Troubleshooting', which include checking physical connections as a primary step in diagnosing display issues .

**QUESTION 178**

A sales team user is attending a conference and wants a mobile device that allows the user to quickly collect contact information from as many potential leads as possible. Which of the following connection methods should a technician configure for the user?

- A. USB
- B. NFC
- C. RFID
- D. Bluetooth

**Correct Answer: B**

**Section:**

**Explanation:**

Near Field Communication (NFC) is the most suitable connection method for the user's need to quickly collect contact information. NFC allows for short-range communication between compatible devices by simply bringing them close together or tapping them together. This feature is ideal for exchanging contact information or transferring small amounts of data quickly and conveniently, making it perfect for a sales environment at a conference. This recommendation is supported by the CompTIA A+ Core 1 (220-1101) Exam Objectives, specifically in sections 2.3 'Compare and contrast protocols for wireless networking' and 1.3 'Given a scenario set up and configure accessories and ports of mobile devices', where NFC is mentioned as a connection method for mobile devices .

**QUESTION 179**

A technician is setting up network printers in a new office building. The company wants all of the printers to be configured the same way for consistency. Some of the printers do not have an RJ45 port to connect to the network. Which of the following does the technician need to enable so all of the printers can be connected to the network?

- A. Wireless
- B. Authentication
- C. PostScript
- D. USB

**Correct Answer: A**

**Section:**

**Explanation:**

To connect printers without an RJ45 port to the network, the technician needs to enable wireless connectivity. By configuring the printers to connect to the network wirelessly, the company can achieve the desired consistency in printer configuration across the office. This approach allows printers without built-in wired network capabilities to be part of the network, facilitating shared access and remote printing functionalities.





CompTIA A+ Core 1 (220-1101) Exam Objectives, Section 2.3 Networking, specifically the information on configuring and troubleshooting wireless connectivity for devices, which includes enabling and securing wireless connections on network printers.

General understanding of network printer configuration options, including the use of wireless connectivity to integrate printers into a network environment, particularly when wired connections are not feasible.

#### QUESTION 180

A user in a home office is unable to connect to the internet. A technician asks the user to run the ipconfig command. Which of the following first octets immediately suggests an issue with the IP address?

- A. 10
- B. 169
- C. 172
- D. 192

**Correct Answer: B**

**Section:**

**Explanation:**

An IP address starting with the first octet '169' immediately suggests an issue, indicating that the device has been assigned an Automatic Private IP Address (APIPA). APIPA addresses are self-assigned by a computer or device when it's unable to obtain an IP address from a DHCP server, which is common in situations where the device is unable to connect to the network or the DHCP server is not functioning properly. The range for APIPA addresses is 169.254.0.1 to 169.254.255.254, and seeing an IP address within this range is a clear indicator of connectivity issues related to DHCP.

CompTIA A+ Core 1 (220-1101) Exam Objectives, specifically the networking domain that covers understanding and troubleshooting network connectivity issues, including the significance of IP address ranges such as APIPA.

#### QUESTION 181

A technician is upgrading the Wi-Fi card on a laptop. Which of the following should the technician do first?

- A. Disconnect the Wi-Fi antenna cables.
- B. Set the physical Wi-Fi switch to disabled.
- C. Remove the power cable.
- D. Install card drivers.



**Correct Answer: C**

**Section:**

**Explanation:**

The first step a technician should take before upgrading the Wi-Fi card on a laptop, or performing any internal hardware modifications, is to remove the power cable to ensure the device is not powered on. This is a crucial safety measure to prevent any electrical damage to the laptop or the technician. It also helps in avoiding any unintended changes or data loss that might occur if the device is powered on during the upgrade process.

CompTIA A+ Core 1 (220-1101) Exam Objectives, specifically the hardware domain that discusses best practices for safety and the procedures to follow when upgrading or replacing internal hardware components, such as a Wi-Fi card.

General safety guidelines for performing hardware upgrades or repairs, emphasizing the importance of ensuring the device is powered off and disconnected from any power sources to avoid electrical hazards.

#### QUESTION 182

A technician is conducting the following tests on a laptop with a wireless NIC:

- \* ping of the default gateway
- \* ping of the localhost
- \* tracert of the IP address of the default gateway

Which of the following will the technician find by running these tests? (Select two).

- A. DNS suffix
- B. Connection latency
- C. Firewall status
- D. Wireless signal strength

- E. Subnet mask of the network
- F. MAC address of the wireless NIC

**Correct Answer: B, E**

**Section:**

**Explanation:**

By running the specified tests (ping of the default gateway, ping of the localhost, and tracert of the IP address of the default gateway), the technician can find connection latency and the subnet mask of the network.

Connection latency: The time it takes for a ping or tracert command to send and receive a response helps in determining the latency in the network connection. Higher latency values can indicate delays in communication over the network.

Subnet mask of the network: The ipconfig command, which the technician would initially run to perform these tests, provides various details about the network configuration, including the subnet mask. The subnet mask is essential in determining the network and host portions of an IP address, which is crucial for networking and troubleshooting connectivity issues.

CompTIA A+ Core 1 (220-1101) Exam Objectives, specifically sections dealing with troubleshooting network connectivity issues and understanding network configurations, including the use of diagnostic commands like ping and tracert.

Networking fundamentals, which explain the purpose and use of diagnostic tools such as ping (to measure latency) and ipconfig (to view IP configuration details including the subnet mask).

### QUESTION 183

Which of the following environments can be set up to keep any device from communicating with a virtual machine over the network?

- A. Development
- B. Test
- C. Sandbox
- D. Cross-platform

**Correct Answer: C**

**Section:**

**Explanation:**

A sandbox environment is designed to isolate and contain software or programs, preventing them from interacting with other parts of the system or network. This isolation can be used to safely run untested or untrusted programs or code without risking the integrity of the host system or network. Setting up a virtual machine within a sandbox environment ensures that the VM has no communication with other devices over the network, providing a controlled and secure environment for testing or development purposes.

CompTIA A+ Core 1 (220-1101) Exam Objectives, particularly the sections on virtualization and cloud computing, which may cover the concept of sandboxing as a form of virtualization used for security and testing.

Understanding of virtualization technologies and security practices, including the use of sandbox environments to contain and limit the potential impact of untrusted or experimental software.

### QUESTION 184

After an IT department implements SSL redirection, users report being unable to access a random number generator opened within a web browser. Which of the following should a technician do first to troubleshoot this issue?

- A. Ensure that the computer supports secure socket communication.
- B. Report the affected user accounts to the IT department.
- C. Reset the web browser cache.
- D. Check to see whether the website is HTTPS enabled.

**Correct Answer: D**

**Section:**

**Explanation:**

After the implementation of SSL (Secure Sockets Layer) redirection, the inability of users to access certain web-based applications or content, like a random number generator, suggests a compatibility or compliance issue with HTTPS (HyperText Transfer Protocol Secure). The first troubleshooting step should be to verify if the website in question supports HTTPS, as SSL redirection forces connections to use HTTPS for security. If the website only operates over HTTP, it won't be accessible after SSL redirection is implemented, leading to the issues reported by users.

CompTIA A+ Core 1 (220-1101) Exam Objectives, especially sections pertaining to network security protocols and the configuration of client-side network and security settings.



**QUESTION 185**

After a heavily used color laser printer was serviced to remove excessive dust, the image quality decreased. Which of the following should a technician most likely check on the printer?

- A. Toner
- B. Calibration
- C. Fuser
- D. Drum

**Correct Answer: B**

**Section:**

**Explanation:**

If a color laser printer's image quality decreases after being serviced for dust removal, it's likely that the servicing process affected the printer's calibration. Calibration ensures that color reproduction is accurate, and if disturbed, can lead to a decrease in image quality. It's important to check and recalibrate the printer to restore its ability to accurately reproduce colors and maintain high image quality.

CompTIA A+ Core 1 (220-1101) Exam Objectives, particularly the sections dealing with printer maintenance, troubleshooting, and the importance of calibration in maintaining image quality in laser printers.

Knowledge of printer maintenance procedures and their impact on printer performance, with a focus on how calibration affects color accuracy and overall image quality.

**QUESTION 186**

A user installs a GPU and notices the screen resolution and picture quality are much lower than before the installation. Which of the following is most likely the cause of the issue?

- A. The GPU is not compatible with the user's motherboard.
- B. The computer does not have enough RAM installed to support the GPU.
- C. The user failed to install the appropriate OEM drivers.
- D. The computer does not have a supported OS installed.

**Correct Answer: C**

**Section:**

**Explanation:**

When a new GPU is installed and results in lower screen resolution and picture quality, it's often because the appropriate OEM (Original Equipment Manufacturer) drivers for the GPU have not been installed. Without these drivers, the operating system may revert to generic drivers that do not fully support the GPU's capabilities, leading to suboptimal performance. Installing the correct OEM drivers should resolve the issue and allow the GPU to function at its intended performance level.

CompTIA A+ Core 1 (220-1101) Exam Objectives, particularly those relating to the installation and configuration of hardware components like GPUs, and the importance of installing the correct device drivers for optimal hardware performance.

General knowledge of hardware installation and the role of device drivers in ensuring hardware components such as GPUs operate correctly within a system.

**QUESTION 187**

A technician just finished building a new PC and needs to install a firmware update for the system board UEFI. The technician is experiencing issues while accessing the USB key. Which of the following features should the technician most likely disable in order to complete this task?

- A. TPM security
- B. USB 3.0 support
- C. PXE boot capability
- D. Secure Boot

**Correct Answer: D**

**Section:**

**Explanation:**

When experiencing issues accessing a USB key for a firmware update, particularly in relation to system board UEFI updates, the Secure Boot feature should be considered. Secure Boot is a security standard designed to ensure that a computer boots using only software that is trusted by the PC manufacturer. If Secure Boot is enabled, it might prevent the system from recognizing or booting from the USB key if the firmware update or the USB drive is



not recognized as a trusted source. Disabling Secure Boot temporarily can allow the firmware update to proceed.

CompTIA A+ Core 1 (220-1101) Exam Objectives, specifically the sections on UEFI/BIOS settings and configurations, including the role and configuration of Secure Boot in system security.

Understanding of UEFI/BIOS security features and their impact on system boot processes, particularly the function of Secure Boot in validating firmware and software integrity during the boot process.

#### QUESTION 188

When a user touches or swipes across an external touch screen, the image flickers but no input is registered on the presentation laptop. A technician verifies that the external touch screen appears free from physical damage. Which of the following should the technician do next?

- A. Reboot the LCD touch panel and laptop.
- B. Check the cables connecting to the laptop.
- C. Verify the correct input source is set on the laptop.
- D. Replace the laptop with a new device that is known to work.
- E. Inspect the LCD touch panel for dead pixels or burn-in.

**Correct Answer: B**

**Section:**

**Explanation:**

When an external touch screen exhibits flickering without registering input on a presentation laptop, the first troubleshooting step should be to check the cables connecting the touch screen to the laptop. This includes ensuring that the cables are securely connected, undamaged, and are the correct type for transmitting both video and touch input data. Faulty, loose, or incorrect cabling can lead to issues like flickering and unregistered inputs.

CompTIA A+ Core 1 (220-1101) Exam Objectives, particularly the sections dealing with peripheral devices and troubleshooting connectivity and performance issues related to external devices like touch screens.

Basic troubleshooting principles for peripheral devices, emphasizing the importance of verifying physical connections and cable integrity when encountering issues with device functionality.

#### QUESTION 189

Some keys on a user's laptop keyboard are sticking. Which of the following should the user use to clean the laptop keyboard?

- A. Antistatic cloth
- B. Compressed air
- C. Cleaning wipe
- D. Soap and water

**Correct Answer: B**

**Section:**

**Explanation:**

To clean sticking keys on a laptop keyboard, using compressed air is the most effective and safest method. Compressed air can dislodge and remove crumbs, dust, and other debris from under the keys without risking damage to the keyboard's electronic components or the keys themselves. This approach is non-invasive and widely recommended for keyboard maintenance.

CompTIA A+ Core 1 (220-1101) Exam Objectives, particularly sections related to maintaining and cleaning computer components and peripherals, which would cover best practices for keyboard cleaning.

General computer maintenance guidelines, highlighting the use of compressed air as a standard tool for cleaning keyboards and other computer parts where direct contact cleaning is not advisable.

#### QUESTION 190

Which of the following technologies can be used to connect a home PC to a company's network?

- A. VLAN
- B. VM
- C. VPN
- D. VoIP

**Correct Answer: C**

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

A VPN (Virtual Private Network) is the technology that allows a home PC to connect securely to a company's network over the internet. It extends a private network across a public network, enabling users to send and receive data as if their computing devices were directly connected to the private network. This makes VPNs ideal for remote work and accessing company resources securely from a home PC.

CompTIA A+ Core 1 (220-1101) Exam Objectives, specifically sections that cover networking concepts and technologies, including remote access methods and network security protocols such as VPNs.

Understanding of network security practices and remote access technologies, focusing on how VPNs create secure connections over the internet for remote users to access corporate networks.

**QUESTION 191**

An array is making clicking noises. An administrator identifies the potential cause of the RAID 5 issue. Which of the following steps should the administrator take next?

- A. Perform a full data backup.
- B. Review logs to verify the theory.
- C. Replace the failing drive.
- D. Document the findings and outcomes.

**Correct Answer: A**

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

Upon identifying a potential cause of an issue with a RAID 5 array, especially when the array is making clicking noises that suggest a failing drive, the next critical step is to perform a full data backup. This ensures that data is preserved before any further troubleshooting steps are taken, such as replacing the failing drive. RAID 5 provides fault tolerance, but ensuring data is backed up minimizes the risk of data loss during the repair process.

CompTIA A+ Core 1 (220-1101) Exam Objectives, especially the sections dealing with storage devices and data backup and recovery principles, which would include strategies for dealing with potential drive failures in RAID arrays.

Best practices in data management and protection, emphasizing the importance of securing a backup before undertaking hardware replacements or repairs in storage arrays to prevent data loss.

**QUESTION 192**

A user connected a laptop to a projector. The image on the screen is very fuzzy, but the image's brightness is satisfactory. Which of the following projector settings should the user adjust first to correct the issue?

- A. Focus
- B. Aspect ratio
- C. Keystone
- D. Resolution

**Correct Answer: A**

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

When a user connects a laptop to a projector and the image displayed is very fuzzy (blurred) but the brightness level is satisfactory, the first setting to adjust on the projector is the focus. The focus control adjusts the clarity and sharpness of the projected image. Incorrect focus settings can lead to a fuzzy or blurred image even when the brightness is adequate. Adjusting the focus should help in making the image clear and sharp.

CompTIA A+ Core 1 (220-1101) Exam Objectives, particularly sections related to configuring and troubleshooting display devices, including projectors and their common settings like focus, aspect ratio, keystone, and resolution.

Basic understanding of how projectors work and the common adjustments that can be made to improve image quality, with focus being a primary control for addressing issues of image clarity.

**QUESTION 193**

A technician is troubleshooting a thermal receipt printer that will not print. Which of the following should the technician do first to restore functionality?

- A. Update the printer driver on the computer.
- B. Replace the thermal printhead.
- C. Make sure the thermal head is heating up.
- D. Flip the paper roll orientation.

**Correct Answer: C**

**Section:**

**Explanation:**

In the case of a thermal receipt printer that will not print, the first step in troubleshooting should be to ensure that the thermal head is heating up. Thermal printers operate by applying heat to a special thermally sensitive paper, creating marks on the paper to form text and images. If the thermal head is not heating up, it cannot create these marks, leading to no print output. Verifying that the thermal head is operational can help isolate the issue, whether it's a hardware malfunction of the thermal head itself or another problem in the printer.

CompTIA A+ Core 1 (220-1101) Exam Objectives, specifically sections dealing with printer technologies and troubleshooting methods, which would include understanding the operational basics of different types of printers, including thermal receipt printers.

Fundamental knowledge of how thermal printers function, emphasizing the critical role of the thermal head in the printing process and the need to ensure it's operational when troubleshooting printing issues.

**QUESTION 194**

A technician needs to configure a multifunction printer that will be used to scan highly confidential data, which must be securely distributed to a select group of executives. Which of the following options is the most secure way to accomplish this task?

- A. Set up the device to email the documents to a group address.
- B. Make copies of the documents and have an office administrator manually distribute them.
- C. Implement badge access on the printer.
- D. Configure scanning to an SMB share with executive access.

**Correct Answer: D**

**Section:**

**Explanation:**

Configuring scanning to a Secure Message Block (SMB) share specifically designated for executive access ensures that the scanned confidential documents are stored securely on a network drive with restricted access. SMB is a network file sharing protocol that allows applications on a computer to read and write to files and request services from server programs in a computer network. By setting up an SMB share with executive access, the data is centralized, making it easier to manage permissions and security settings. This method also utilizes the existing network infrastructure, allowing for scalability and integration with other security measures like encryption and authentication protocols.

CompTIA A+ Certification Exam Core 1 and Core 2 Objectives Documents

**QUESTION 195**

A computer technician is investigating issues with a user's workstation. The user reports the following:

- \* Loading the operating system takes much longer than usual
- \* Clicking sounds are coming from inside the workstation

Which of the following is the most likely cause of the issue?

- A. The CPU is overheating.
- B. The system fans are damaged.
- C. The hard drive is failing.
- D. The MBR has been wiped.

**Correct Answer: C**

**Section:**

**Explanation:**

The symptoms described, such as the operating system taking longer than usual to load and hearing clicking sounds from within the workstation, are indicative of a failing hard drive. Clicking sounds, often referred to as the 'click of death,' signal the read/write head of the hard drive struggling to function properly. This mechanical failure leads to longer load times as the system struggles to read data from the disk. It is crucial to back up data and consider replacing the hard drive to prevent data loss.

**QUESTION 196**

Which of the following is a legacy, 15-pin cable type?



- A. DisplayPort
- B. DVI
- C. VGA
- D. HDMI

**Correct Answer: C**

**Section:**

**Explanation:**

VGA (Video Graphics Array) is a legacy 15-pin connector used for transmitting analog video signals. VGA was commonly used to connect monitors to computers, but it has been largely replaced by more modern digital interfaces like DVI and HDMI.

C . VGA: A legacy 15-pin connector used for analog video signals.

Why the other options are incorrect:

A . DisplayPort: DisplayPort is a newer digital interface and does not use a 15-pin connector.

B . DVI: DVI (Digital Visual Interface) is a digital connector used for video signals but does not have 15 pins.

D . HDMI: HDMI is also a digital interface for audio and video, but it uses a different connector with no 15 pins.

This topic relates to the Hardware domain in the CompTIA A+ Core 1 exam.

#### QUESTION 197

A technician is connecting a hands-free car system via Bluetooth. Which of the following is a security feature that should be used for this task?

- A. BitLocker
- B. Biometrics
- C. TPM
- D. PIN code

**Correct Answer: D**

**Section:**

**Explanation:**

When connecting a Bluetooth device like a hands-free car system, using a PIN code adds a layer of security. The PIN code must be entered or confirmed during the pairing process to ensure that the connection is authorized and secure.

D . PIN code: Provides an additional security measure during Bluetooth pairing to prevent unauthorized access.

Why the other options are incorrect:

A . BitLocker: BitLocker is a drive encryption feature used to secure data on hard drives, not for securing Bluetooth connections.

B . Biometrics: Biometrics refers to authentication using physical traits like fingerprints, which are not typically used for Bluetooth connections.

C . TPM: Trusted Platform Module (TPM) is a hardware security feature used for encryption and secure boot processes, not for Bluetooth pairing.

This falls under the Mobile Devices and Security domain in the CompTIA A+ Core 1 exam.

#### QUESTION 198

A technician needs to adjust the VLAN to allow users in the sales department to access the marketing department's network resources. Which of the following should the technician configure?

- A. Network card
- B. Patch panel
- C. Switch
- D. Server
- E. Hub

**Correct Answer: C**

**Section:**



**Explanation:**

To adjust the VLAN configuration, the technician needs to configure the switch. VLANs are configured on switches to segment network traffic logically, even if the devices are connected to the same physical network. By adjusting the VLAN settings on the switch, the technician can ensure that the sales department has access to the marketing department's network resources.

C . Switch: VLANs are configured on switches to logically separate or combine network segments.

Why the other options are incorrect:

A . Network card: A network card is a hardware component that connects a device to a network, but it does not configure VLANs.

B . Patch panel: A patch panel is used to organize and manage network cables but does not play a role in VLAN configuration.

D . Server: A server may host resources, but VLANs are managed at the switch level.

E . Hub: A hub is a basic networking device that simply forwards traffic; it cannot be used to configure VLANs.

This falls under the Networking domain in the CompTIA A+ Core 1 exam.

