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## Exam A

### QUESTION 1

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 2

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 3

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 tool1. High latency is a common issue with satellite internet connections, and it can cause slow internet speeds2.



Restarting the modem can help to resolve the issue1. The technician should also run an online internet connection and speed diagnostic tool to check the connection and speed1. 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 option2.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 4

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 5

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

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

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

**Correct Answer: B**

**Section:**

**Explanation:**

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

#### QUESTION 6

Which of the following services allows a remote user to access network resources?

- A. WLAN
- B. SAN
- C. DHCP
- D. VPN

**Correct Answer: D**

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

The correct answer is D. VPN.

A VPN (Virtual Private Network) is a service that allows a remote user to access network resources securely over the internet. A VPN creates an encrypted tunnel between the user's device and the VPN server, which acts as a gateway to the network. The user can then access the network resources as if they were directly connected to the network, without exposing their traffic to eavesdropping, interception, or censorship.

A VPN can provide remote users with access to various services on a company network, such as file and print services, client/server applications, and remote network administration<sup>1</sup>. A VPN can also protect the user's privacy and identity online by masking their IP address and location.

Reference:

- Remote Access to a Network - NETWORK ENCYCLOPEDIA, section "Remote access typically gives remote users access to the following services on a company network".

**QUESTION 7**

Which of the following wireless standards can operate in the 6GHz frequency range?

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

**Correct Answer: B**

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

The correct answer is B. 802.11ax.

802.11ax, also known as Wi-Fi 6 or Wi-Fi 6E, is the latest wireless standard that can operate in the 6GHz frequency range. This standard was approved by the IEEE in February 2021 and offers higher throughput, lower latency, and improved efficiency compared to previous standards<sup>1</sup>. The 6GHz frequency range spans from 5.925 GHz to 7.125 GHz and provides 1200 MHz of additional spectrum for Wi-Fi devices. This means that Wi-Fi 6E can support more channels, wider bandwidths, and less interference than the existing 2.4 GHz and 5 GHz bands. Wi-Fi 6E can access up to 59 20-MHz channels, 29 40-MHz channels, 14 80-MHz channels, or 7 160-MHz channels in the 6GHz band<sup>1</sup>. 802.11ac, also known as Wi-Fi 5, is the previous wireless standard that can only operate in the 5GHz frequency range. It was approved by the IEEE in December 2013 and offers faster speeds and better performance than older standards. However, it cannot use the new spectrum in the 6GHz band and has limited channel availability and capacity in the crowded 5GHz band<sup>2</sup>. 802.11g and 802.11n are older wireless standards that can only operate in the 2.4GHz frequency range. They were approved by the IEEE in June 2003 and October 2009, respectively, and offer lower speeds and performance than newer standards. They also suffer from more interference and congestion in the saturated 2.4GHz band, which is shared by many other devices and technologies<sup>3</sup>.

**QUESTION 8**

After a required operating system upgrade on a mobile device, a user's external monitor no longer works. Which of the following should a technician do to fix this issue?

- A. Install the latest graphics drivers.
- B. Replace the monitor
- C. Restore the operating system to the previous version.
- D. Reseat the external video adapter.

**Correct Answer: A**

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

The correct answer is A. Install the latest graphics drivers.

The most likely cause of the external monitor not working after an operating system upgrade is that the graphics drivers are incompatible with the new version. Installing the latest graphics drivers from the manufacturer's website or using Windows Update can resolve this issue. Replacing the monitor, restoring the operating system to the previous version, or reseating the external video adapter are not effective solutions for this problem.

Reference: You can find more information about troubleshooting external monitor connections in Windows 10<sup>1</sup> and Windows 11<sup>2</sup>. You can also learn how to update the display driver using Device Manager<sup>2</sup>.

**QUESTION 9**

A technician replaces a laptop hard drive with an M.2 SSD. When the technician reboots the laptop, the laptop does not detect the SSD. Which of the following should the technician configure for the system?

- A. HSM
- B. Boot options
- C. UEFI settings
- D. TPM

**Correct Answer: C**

**Section:**

**Explanation:**

UEFI stands for Unified Extensible Firmware Interface, and it is a type of firmware that controls the boot process of a computer. UEFI settings allow the technician to configure various aspects of the boot process, such as the boot order, the boot mode, and the security options. If the technician replaces a laptop hard drive with an M.2 SSD, they may need to adjust the UEFI settings to enable the system to detect and boot from the new drive.

#### QUESTION 10

The output from print jobs a user submitted to a laser printer is missing the color yellow. The user has already attempted a cleaning cycle. Which of the following parts most likely needs to be replaced?

- A. Fuser
- B. Ink cartridge
- C. Imaging drum
- D. Toner tank
- E. Resin

**Correct Answer: C**

**Section:**

**Explanation:**

An imaging drum is a component of a laser printer that transfers the toner to the paper. It is sensitive to light and can wear out over time, resulting in poor print quality or missing colors. If the cleaning cycle does not resolve the issue, the imaging drum may need to be replaced<sup>1</sup>.

A fuser is a component of a laser printer that heats and melts the toner onto the paper. It does not affect the color output of the printer, but it can cause paper jams, smudges, or wrinkles if it is defective<sup>2</sup>.

An ink cartridge is a component of an inkjet printer, not a laser printer. A laser printer uses toner, which is a dry powder, instead of ink, which is a liquid. An ink cartridge would not be compatible with a laser printer<sup>3</sup>.

A toner tank is a container that holds the toner for a laser printer. It can be either integrated with the imaging drum or separate from it. If the toner tank is empty or low, the printer will display a warning message and the print quality will deteriorate. However, if only one color is missing, the problem is more likely with the imaging drum than the toner tank<sup>4</sup>.

Resin is a material that is used in some types of 3D printers, not laser printers. Resin printers use a liquid resin that is cured by a light source to create solid objects. Resin has nothing to do with laser printing<sup>5</sup>.

#### QUESTION 11

Which of the following services checks whether the sender's IP address is associated with the sender's domain name when receiving email?

- A. DKIM
- B. MX
- C. SPF
- D. DMARC

**Correct Answer: C**

**Section:**

**Explanation:**

The correct answer is C. SPF.

SPF stands for Sender Policy Framework, which is a protocol that allows domain owners to specify which IP addresses are authorized to send email on behalf of their domains<sup>1</sup>. SPF helps prevent email spoofing and phishing by verifying the sender's identity and preventing unauthorized use of their domain name<sup>2</sup>.

When an email is received, the receiving server checks the SPF record of the sender's domain, which is a DNS TXT record that lists the valid IP addresses for that domain<sup>2</sup>. The server then compares the sender's IP address with the SPF record and determines if it matches or not. If it matches, the email passes the SPF check and is accepted; if it does not match, the email fails the SPF check and is rejected or marked as spam<sup>2</sup>.

DKIM stands for DomainKeys Identified Mail, which is a protocol that allows domain owners to digitally sign their emails using a public-private key pair<sup>3</sup>. DKIM helps ensure the integrity and authenticity of email messages by

verifying that they have not been tampered with or forged during transit<sup>3</sup>.

MX stands for Mail Exchange, which is a type of DNS record that specifies the mail servers that are responsible for receiving email for a domain. MX records help direct incoming email to the correct destination and prioritize them based on preference values.

DMARC stands for Domain-based Message Authentication, Reporting and Conformance, which is a protocol that builds on SPF and DKIM and allows domain owners to define how receivers should handle unauthenticated or suspicious emails from their domains. DMARC helps protect domains from email fraud and abuse by providing feedback and reports on email delivery and authentication status.

Therefore, SPF is the only service among the options that checks whether the sender's IP address is associated with the sender's domain name when receiving email.

#### QUESTION 12

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:**

The correct answer is D. Power supply wattage rating.

The power supply wattage rating is the most important factor to consider before building a gaming computer, as it determines how much power the system can draw from the wall and how much power the components can consume. A power supply with a low wattage rating may not be able to support the high-end graphics card, processor, and other devices, resulting in poor performance, instability, or damage<sup>12</sup>.

To find the optimal power supply wattage rating for a gaming computer, the technician should calculate the total power consumption of all the components and add some headroom for future upgrades or overclocking. The technician can use online calculators such as Cooler Master Power Calculator or Seasonic Wattage Calculator to estimate the power requirements of the system<sup>3</sup>.

#### QUESTION 13

A network technician needs to provide better wireless connectivity throughout a SOHO location.

Which of the following should the technician deploy to best improve connectivity?

- A. Access point
- B. Managed switch
- C. POE hub
- D. Wi-Fi router

**Correct Answer: A**

**Section:**

**Explanation:**

The correct answer is A. Access point.

An access point is a device that extends the wireless coverage of a network by creating a hotspot that allows wireless devices to connect to the network<sup>1</sup>. An access point can be connected to a router or a switch via an Ethernet cable or a wireless bridge<sup>1</sup>. By deploying one or more access points throughout a SOHO location, the technician can provide better wireless connectivity and eliminate dead zones or weak signals<sup>2</sup>.

A managed switch is a device that allows multiple devices to communicate on a network by forwarding data packets based on their destination addresses<sup>3</sup>. A managed switch can also provide advanced features such as VLANs, QoS, security, and remote management<sup>3</sup>. However, a managed switch does not improve wireless connectivity, as it only works with wired devices.

A POE hub is a device that provides power and data over a single Ethernet cable to devices that support Power over Ethernet (PoE) technology, such as IP cameras, VoIP phones, and wireless access points<sup>4</sup>. A POE hub can



simplify the installation and placement of these devices by eliminating the need for separate power adapters or outlets<sup>4</sup>. However, a POE hub does not improve wireless connectivity by itself, as it still requires an access point or a router to create a wireless network.

A Wi-Fi router is a device that combines the functions of a router and an access point, providing both wired and wireless connectivity to a network and the internet. A Wi-Fi router can be used to create a SOHO network, but it may not be sufficient to cover the entire location with a strong and reliable wireless signal. To improve wireless connectivity, the technician may need to add additional access points or use a mesh Wi-Fi system that consists of multiple routers that work together to create a seamless wireless network.

Therefore, an access point is the best option among the choices to improve wireless connectivity throughout a SOHO location.

#### QUESTION 14

Which of the following is used to define a range of IP addresses available to assign using DHCP?

- A. Scope
- B. Address
- C. Lease
- D. Reservation

**Correct Answer: A**

**Section:**

**Explanation:**

A scope is a term used to define a range of IP addresses available to assign using DHCP. DHCP stands for Dynamic Host Configuration Protocol, and it is a protocol that automatically assigns IP addresses and other network configuration parameters to devices on a network. A scope defines the start and end IP addresses, as well as other options, such as subnet mask, default gateway, and DNS servers.

#### QUESTION 15

A printer displays an error message even after a paper jam is cleared. Which of the following should a technician do to fix the issue?

- A. Check the paper path for a blocked sensor.
- B. Verify the pickup roller is functioning.
- C. Change the duplex settings.
- D. Run internal printer diagnostics.

**Correct Answer: A**

**Section:**

**Explanation:**

A paper path is the route that paper takes through a printer from the input tray to the output tray. A blocked sensor is a sensor that detects paper jams or other errors in the paper path but fails to clear after the problem is resolved. A blocked sensor can cause a printer to display an error message even after a paper jam is cleared. The technician should check the paper path for any debris or obstructions that may trigger the sensor.

#### QUESTION 16

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:**

Application virtualization is a technique that allows an application to run on a computer without being installed or affecting other applications on the system. Application virtualization creates a virtual environment for the application that isolates it from the underlying operating system and hardware. This way, the technician can verify the application deployment will not affect other legacy applications on the end users' computers.

#### QUESTION 17

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 refer to any problems with the cables or connectors that connect a display to a computer or a power source. Physical cabling issues can cause various symptoms, such as slow to turn on, distorted and discolored images, lines going through the image, and intermittent blank screens. The technician should check the cables and connectors for any damage, looseness, or interference.

#### QUESTION 18

An administrator is responding to a network server outage. The administrator has logged in to the server to troubleshoot the outage. Which of the following is the first step the administrator should take when attempting to troubleshoot the issue?

- A. Document the results.
- B. Analyze the error logs.
- C. Check the physical connections.
- D. Upgrade the server firmware.

**Correct Answer: B**

**Section:**

**Explanation:**

The correct answer is B. Analyze the error logs.

Error logs are files that record the events and errors that occur on a server or a network device. They can provide valuable information about the cause and the time of the outage, as well as any warnings or alerts that preceded it. Analyzing the error logs can help the administrator narrow down the possible sources of the problem and identify the best course of action to resolve it.

The first step in troubleshooting a network is to identify the problem<sup>1</sup>. As a part of this step, the administrator should gather information about the current state of the network using the network troubleshooting tools that are available<sup>1</sup>. One of these tools is the error log viewer, which can be accessed through the server's operating system or a network monitoring software. The administrator should look for any entries that indicate a failure, a crash, a timeout, or an exception in the error logs. The administrator should also note the date and time of the entries, as well as the severity and the frequency of the errors.

The other options are less likely to be the first step in troubleshooting, because:

- Documenting the results is an important step in troubleshooting, but it should be done after identifying and resolving the problem, not before. Documenting the results can help the administrator keep track of the actions taken, the changes made, and the outcomes achieved. It can also help prevent future problems by providing a reference for best practices and lessons learned<sup>1</sup>.
- Checking the physical connections is another important step in troubleshooting, but it should be done after analyzing the error logs, not before. Physical connections are the cables and ports that link the server to other devices on the network. They can affect the quality and stability of the network signal. If the error logs do not indicate any software or configuration issues, then checking the physical connections can help determine if there is any damage or interference in the hardware<sup>2</sup>.
- Upgrading the server firmware is a possible solution for some network problems, but it should not be done as a first step in troubleshooting, unless there is a clear indication that the firmware is outdated or corrupted. Firmware is a type of software that controls the basic functions of a hardware device. Upgrading the firmware can improve performance, security, and compatibility, but it can also introduce new bugs or conflicts with other software or hardware components.

Therefore, upgrading the firmware should be done with caution and only after backing up data and settings<sup>3</sup>.

For more information and tips on how to troubleshoot network issues, you can visit these links:





- A Guide to Network Troubleshooting - CompTIA
- What is Network Troubleshooting? How to Fix Network Issues - SolarWinds
- Network Troubleshooting - Methodology, Steps & Techniques - DNSstuff

#### QUESTION 19

A company wants to add virtual servers to handle unusually high web traffic usage. Which of the following is the most efficient way?

- A. Community cloud
- B. File synchronization
- C. Rapid elasticity
- D. Cloud VDI

**Correct Answer: C**

**Section:**

**Explanation:**

Rapid elasticity is the ability of a cloud service to scale up or down the resources (such as virtual servers, storage, bandwidth, etc.) according to the demand of the users. This is an efficient way to handle unusually high web traffic usage, as it allows the company to provision more virtual servers when needed and release them when not needed, without wasting resources or paying for unused capacity. Rapid elasticity also improves the performance and availability of the web service, as it can adjust to the fluctuations in traffic and avoid overloading or downtime.

Reference

Rapid Elasticity in Cloud Computing: On-Demand Scaling for Business

Chapter 4: Virtualization and Cloud Computing

#### QUESTION 20

Which of the following is the best environment for an engineer to use for research purposes?

- A. Host
- B. Sandbox
- C. Simulated production
- D. Cross-platform

**Correct Answer: B**

**Section:**

**Explanation:**

A sandbox is a virtual environment that isolates the engineer's research activities from the rest of the system. This allows the engineer to test, experiment, and modify the system without affecting the real data, applications, or settings. A sandbox is the best environment for research purposes because it provides a safe and controlled way to explore new ideas, simulate scenarios, and troubleshoot problems. A sandbox can also be easily reset or deleted after the research is done.

Reference

What is a Sandbox Environment?

Chapter 4: Virtualization and Cloud Computing

#### QUESTION 21

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

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

**Correct Answer: D**

**Section:**

**Explanation:**

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

**QUESTION 22**

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

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

**Correct Answer: D**

**Section:**

**Explanation:**

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

**QUESTION 23**

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

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

**Correct Answer: A**

**Section:**

**Explanation:**

**QUESTION 24**

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

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

**Correct Answer: B**

**Section:**

**Explanation:**

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

#### QUESTION 25

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

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

**Correct Answer: D**

**Section:**

**Explanation:**

#### QUESTION 26

An end user reports that the time and date on a desktop resets after shutdown, and subsequently, the device reboots. The next day, the desktop does not load the OS and is stuck at a black screen with the following message:

```
Date/Time Not Set  
Press F1 to Run Setup
```

Which of the following would be the BEST action to take next?

- A. Change the motherboard.
- B. Reseat the motherboard power connections.
- C. Replace the CMOS battery.
- D. Restore the BIOS to factory default settings.

**Correct Answer: C**

**Section:**

**Explanation:**

#### QUESTION 27

An organization is looking to upgrade the processing ability for its computers. Most users report that whenever multiple applications are being utilized, the system's response time slows down drastically. When only one application is open, the response time is acceptable. Which of the following should be upgraded FIRST?

- A. SSD
- B. CPU
- C. HDD
- D. RAM

**Correct Answer: D**

**Section:**

**Explanation:**

The component that should be upgraded first is the RAM. When multiple applications are being utilized, the system's response time slows down drastically. This is because the computer is running out of memory. Upgrading the RAM will allow the computer to store more data in memory, which will improve performance when multiple applications are being used.



**QUESTION 28**

Which of the following BEST describes the main function of a web server?

- A. Storing files and controlling user access
- B. Setting up personal mailboxes and calendars
- C. Providing IP addresses and printing services
- D. Hosting home pages and business portals

**Correct Answer: D**

**Section:**

**Explanation:**

A web server is a software application that serves HTTP (Hypertext Transfer Protocol) requests by delivering web pages and other files to users' web browsers. The main function of a web server is to host home pages and business portals, making them accessible to users via the internet. Reference: CompTIA A+ Certification Exam Objectives 220-1001 - Networking - 1.6

**QUESTION 29**

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 30**

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 31**

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 32

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 33

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 34

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 35

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 36

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 37

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 38

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 39

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 40

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 41

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 42

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 43

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 44

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 45

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 46**

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 47**

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 48**

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 49

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 50

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 51

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 52

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 53

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 54

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 55

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 56

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 57

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 58

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

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

**Correct Answer: C**

**Section:**

**Explanation:**

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

#### QUESTION 59

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

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

**Correct Answer: D**

**Section:**

**Explanation:**

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

#### QUESTION 60

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

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

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

**Correct Answer: B**

**Section:**

**Explanation:**

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

**QUESTION 61**

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

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

**Correct Answer: D**

**Section:**

**Explanation:**

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

**QUESTION 62**

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

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



**Correct Answer: C**

**Section:**

**Explanation:**

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

**QUESTION 63**

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 64**

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 65**

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 66**

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.

**QUESTION 67**

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.

**QUESTION 68**

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 69**

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 70**

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 71**

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 2.4 GHz band is subdivided into up to 14 channels, spaced at 5 MHz intervals from 2412 MHz up to 2484 MHz. Wi-Fi requires a 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 72**

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 transports 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 73**

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 74

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 75

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

**QUESTION 76**

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. (Of 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 77**

A thermal printer that is used to print order tickets 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 78**

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 79**

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

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

**Correct Answer: C**

**Section:**

**Explanation:**

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

**QUESTION 80**

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

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

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

**Correct Answer: A**

**Section:**

**Explanation:**

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

**QUESTION 81**

The help desk received a ticket regarding issues with a laser printer. The printer has had repairs previously for scanning issues. Currently, the printed text is not adhering properly to the paper.

Which of the following should be replaced to resolve this issue?

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

**Correct Answer: A**

**Section:**

**Explanation:**

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

**QUESTION 82**

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

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

**Correct Answer: D**

**Section:**

**Explanation:**

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

**QUESTION 83**

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

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

**Correct Answer: C**

**Section:**

**Explanation:**

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

**QUESTION 84**

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

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

**Correct Answer: B**

**Section:**

**Explanation:**

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

**QUESTION 85**

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

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

**Correct Answer: C**

**Section:**

**Explanation:**

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

**QUESTION 86**

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

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



**Correct Answer: B**

**Section:**

**Explanation:**

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

**QUESTION 87**

Which of the following commonly uses NFC?

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

**Correct Answer: A**

**Section:**

**Explanation:**

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

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



**QUESTION 88**

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

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

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

**Correct Answer: A**

**Section:**

**Explanation:**

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

**QUESTION 89**

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

Which of the following should the technician do NEXT?

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



**Correct Answer: A**

**Section:**

**Explanation:**

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

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

**QUESTION 90**

A user wants a second monitor installed on a laptop. The VGA/DVI or HDMI cables have already been connected. Which of the following should the technician do to configure the laptop to show both screens?

- A. Power cycle the laptop.
- B. Plug in the monitor to the USB port.
- C. Adjust the monitor display settings.
- D. Power cycle the monitor.

**Correct Answer: C**

**Section:**

**Explanation:**

To configure the laptop to show both screens, the technician should adjust the monitor display settings. On Windows 10 or 11, the technician can select the Start menu, then open Settings, then select Display. The PC should automatically detect the monitors and show the desktop. If the monitors are not detected, the technician can select Multiple displays, then Detect. The technician can then use the dropdown list next to the image of the



desktop to choose how the screen will project across the displays12345.

**QUESTION 91**

A user attempted to install an application on a desktop, and the installation attempt failed. A technician compares these installation files to those on another user's machine and finds the files are different. Which of the following should the technician do NEXT?

- A. Attempt to reinstall the application.
- B. Verify the system functionality.
- C. Test the functionality of the antivirus.
- D. Complete the final report.
- E. Determine the source of the installation file.

**Correct Answer: A**

**Section:**

**Explanation:**

**QUESTION 92**

A user calls the help desk for assistance configuring an Android phone with a new NFC-enabled speaker that will be used for an upcoming conference call. The user was unable to direct the phone's audio to the NFC speaker. Which of the following sequences should the help desk technician walk the customer through to accomplish this task?

- A. Enable NFC on the speaker. Ensure the speaker is less than 33ft (10m) from the Android phone. On the phone's Bluetooth settings menu for Connected Devices, select Pair New Device. Tap to accept the connection to the speaker when the prompt is displayed on the phone's screen.
- B. Enable NFC and Bluetooth on the Android phone. From the Android phone's Bluetooth settings menu for Connected Devices, select the Previously Connected Devices option. Select a listed device that most closely matches the speaker. Tap to accept the connection to the speaker when the prompt is displayed on the phone's screen.
- C. Enable NFC and Bluetooth on the Android phone. Tap and hold the Android phone to the spot on the speaker where the NFC logo is displayed. Accept the connection to the speaker when the prompt is displayed on the phone's screen.
- D. Enable Wi-Fi on the speaker. Enable Wi-Fi on the Android phone. Tap and hold the Android phone to the spot on the speaker where the NFC logo is displayed. Accept the connection to the speaker when the prompt is displayed on the phone's screen.

**Correct Answer: C**

**Section:**

**Explanation:**

**QUESTION 93**

Which of the following are default ports for HTTP and HTTPS traffic? (Select TWO).

- A. 23
- B. 25
- C. 80
- D. 143
- E. 389
- F. 443

**Correct Answer: C, F**

**Section:**

**Explanation:**

**QUESTION 94**

A startup company is outgrowing its current office space and is requiring employees to work remotely. The company must comply with government-enforced requirements to safeguard all aspects of data, so the IT department plans to maintain complete control over users' operating systems. Which of the following should the IT department implement?

- A. VDI
- B. IaaS
- C. VPN
- D. SaaS

**Correct Answer: A**

**Section:**

**Explanation:**

The IT department should implement VDI. Virtual Desktop Infrastructure (VDI) is a technology that allows users to access a desktop operating system from a remote location. VDI provides complete control over users' operating systems, which is important for safeguarding data. VDI also provides a secure way to access data from remote locations, which is important for compliance with government-enforced requirements.

**QUESTION 95**

A user entered a help desk ticket stating the latest calendar updates have not appeared on the user's corporate mobile device for several days, even though updates do appear on the user's laptop. Which of the following actions will MOST likely enable calendar alerts?

- A. Checking that the ringer volume on the device is high enough to be audible
- B. Ensuring the corporate password is saved correctly in the calendar application
- C. Installing a third-party calendar application and synchronizing it with the corporate calendar
- D. Remotely wiping the mobile device and reinstalling all applications



**Correct Answer: B**

**Section:**

**Explanation:**

**QUESTION 96**

A technician is configuring a new CAD workstation that has four large hard drives. The workstation will be used to edit large, critical files, so the storage configuration should be both fast and redundant. Which of the following RAID levels BEST meets these requirements?

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

**Correct Answer: D**

**Section:**

**Explanation:**

RAID 10 combines the benefits of RAID 0 and RAID 1. It uses a striped configuration across multiple disks (similar to RAID 0) to provide high-speed read and write access. Additionally, it also mirrors the striped array onto a second set of drives (similar to RAID 1), providing redundancy in case of a drive failure.

**QUESTION 97**

A technician is diagnosing a workstation that shuts down unexpectedly during a butn-in test. Which of the following is the MOST likely cause for this symptom?

- A. Faulty CMOS battery
- B. OS update issue
- C. Overheating
- D. Faulty RAM

**Correct Answer: C**

**Section:**

**Explanation:**

If a workstation shuts down unexpectedly during a burn-in test, overheating is the most likely cause. This is because a burn-in test is designed to stress the components of the workstation, which can generate a lot of heat. Therefore, overheating is the correct answer. Reference: CompTIA A+ Certification Exam Guide, Ninth Edition, page 120

**QUESTION 98**

The Chief Executive Officer wants to ensure company data is stored in a manner that provides the company with complete control over how the data is managed. Which of the following is the BEST cloud deployment model for this request?

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

**Correct Answer: D**

**Section:**

**Explanation:**

A private cloud deployment model provides the company with complete control over how the data is managed. This is because a private cloud is managed solely by the organization and resides on- premises or in a data center. Therefore, a private cloud deployment model is the best option for this scenario

**QUESTION 99**

A technician is tasked with upgrading a laptop's RAM. Which of the following steps should the technician take FIRST?

- A. Confirm that both the current and new memory are from the same brand.
- B. Run a diagnostic test on the current memory.
- C. Verify the memory requirements of the motherboard.
- D. Connect an electrostatic discharge strap.

**Correct Answer: C**

**Section:**

**Explanation:**

If a technician is tasked with upgrading a laptop's RAM, the technician should verify the memory requirements of the motherboard first. The motherboard of the laptop will have specific requirements for the type and amount of RAM that can be installed. By verifying the memory requirements of the motherboard, the technician can ensure that the new RAM is compatible with the laptop. Before upgrading a laptop's RAM, a technician should verify the memory requirements of the motherboard to ensure the new RAM is compatible. The type, speed, and maximum capacity of the RAM should be checked to ensure it meets the requirements of the motherboard. Reference: CompTIA A+ Certification Exam Guide, pg. 347-348

**QUESTION 100**

Which of the following cables replaced the Apple 30-pin connector and is also reversible?

- A. USB-C
- B. Lightning
- C. miniUSB
- D. DisplayPort

**Correct Answer: B**

**Section:**

**Explanation:**

Lightning Connector: Apple introduced this brand-new connector back in 2012. It is over 80% smaller than the 30-pin connector and is reversible. [https://www.cablewholesale.com/support/technical\\_articles/whats\\_your\\_port.php#:~:text=Lightnin g%20Connector%3A%20Apple%20introduced%20this,pin%20connector%20and%20is%20reversible.](https://www.cablewholesale.com/support/technical_articles/whats_your_port.php#:~:text=Lightnin%20Connector%3A%20Apple%20introduced%20this,pin%20connector%20and%20is%20reversible.)

#### QUESTION 101

Which of the following 802.11 standards supports both 5GHz and 2.4GHz channel frequencies?

- A. 802.11a
- B. 802.11ac
- C. 802.11b
- D. 802.11g

**Correct Answer: B**

**Section:**

**Explanation:**

802.11ac is the 802.11 standard that supports both 5GHz and 2.4GHz channel frequencies. 802.11ac is the latest wireless networking standard that operates in both the 5GHz and 2.4GHz frequency bands. It provides higher wireless network speeds and better reliability compared to previous standards, such as 802.11a, 802.11b, and 802.11g. The 802.11a standard operates exclusively in the 5GHz band, while the 802.11b and 802.11g standards operate exclusively in the 2.4GHz band.

#### QUESTION 102

Which of the following types of devices MOST often uses a Thunderbolt cable?

- A. Linux PC
- B. Android mobile
- C. Apple laptop
- D. Chromebook

**Correct Answer: C**

**Section:**

**Explanation:**

CompTIA study guide says Apple Devices use thunderbolt and lightning cables the most, but it is being implemented in Windows and Linux products.

#### QUESTION 103

A user reports limited or no connectivity on a laptop. A technician runs ipconfig /all with the following result:

```
IPv4 connectivity...limited or none
IPv4 address...169.254.254.1
subnet mask...255.255.0.0
default gateway...
```

Which of the following is the MOST likely cause of this issue?

- A. DHCP failure

- B. ARP cache
- C. DNS resolution
- D. Duplicate IP address

**Correct Answer: A**

**Section:**

**Explanation:**

#### QUESTION 104

An end user discovered that the touch-screen features on a Windows device have stopped working. Which of the following should a technician check?

- A. Performance monitor
- B. Tablet/PC settings
- C. System configuration
- D. Display settings

**Correct Answer: B**

**Section:**

**Explanation:**

If the touch-screen features on a Windows device have stopped working, a technician should check the Tablet/PC settings. The Tablet/PC settings contain options for configuring the touch-screen features on a Windows device. By checking the Tablet/PC settings, the technician can ensure that the touch-screen features are enabled and configured correctly. If the touch-screen features on a Windows device have stopped working, a technician should check the Tablet/PC settings. The touch-screen settings may have been disabled or there may be a driver issue that needs to be resolved. Reference: CompTIA A+ Certification Exam Guide, pg. 536

#### QUESTION 105

A technician is setting up a projector (or a videoconferencing system). When the user attempts to connect a laptop to the system, the system displays the following error message. No source found. The user tries multiple cables and inputs on the projector. Which of the following should the user try NEXT?

- A. Check the bulb on the projector and replace it with a new one.
- B. Check the display settings on the computer and set them to extend/duplicate.
- C. Replace the projector with another known-good one and try again.
- D. Replace the video card on the machine that is plugged in to the projector, as it has gone bad.

**Correct Answer: B**

**Section:**

**Explanation:**

If a user is unable to connect a laptop to a projector or videoconferencing system and sees the error message "No source found," the next step should be to check the display settings on the computer and set them to extend/duplicate. This will ensure that the laptop's display is being output to the external device. Reference: CompTIA A+ Certification Exam Guide, pg. 514

#### QUESTION 106

A technician is implementing a SOHO wireless solution with three access points. Which of the following actions would avoid high latency?

- A. Enabling and configuring a 5GHz antenna
- B. Configuring separate IP ranges
- C. Enabling multiple SSIDs
- D. Configuring all devices with different channels

**Correct Answer: D**

**Section:**

**Explanation:**

If a technician is implementing a SOHO wireless solution with three access points and wants to avoid high latency, the technician should configure all devices with different channels. By configuring all devices with different channels, the technician can ensure that the wireless signals from each access point do not interfere with each other, which can cause high latency.

**QUESTION 107**

Which of the following would MOST likely be used to connect one or more devices to the internet in a SOHO?

- A. Hub
- B. Ethernet gateway
- C. Wireless access point
- D. Router

**Correct Answer: D**

**Section:**

**Explanation:**

A router is a device that connects one or more networks, such as a home or small office network, to the internet. It allows multiple devices to share a single internet connection and provides network address translation (NAT) to enable communication between the devices on the local network and the internet. A hub, Ethernet gateway, or wireless access point does not provide this functionality. A router is the most likely device to be used to connect one or more devices to the internet in a SOHO. A router can provide network address translation (NAT), firewall protection, and other features that are important for securing and managing a network. Reference: CompTIA A+ Certification Exam Guide, pg. 355

**QUESTION 108**

The IT department at an insurance brokerage needs to acquire laptops that have built-in fingerprint readers in order to create a more secure environment. Which of the following would be the MOST secure way to implement the fingerprint readers?

- A. Grant all registered employees access to each machine.
- B. Restrict device access to only the user to whom the laptop is assigned.
- C. Limit device access to departments and guest users.
- D. Give each team member a USB drive that bypasses the reader to allow guest users to log in.

**Correct Answer: B**

**Section:**

**Explanation:**

The most secure way to implement fingerprint readers would be to restrict device access to only the user to whom the laptop is assigned. This ensures that only authorized personnel have access to the device, reducing the risk of unauthorized access and data breaches.

**QUESTION 109**

A hardware technician is configuring a laptop, and the network administrator requires the network settings to be static. The technician successfully pings the servers by IP address but cannot ping the UNC path. Which of the following is the cause of this issue?

- A. Domain Name System
- B. Gateway
- C. Subnet
- D. IP address

**Correct Answer: A**

**Section:**

**Explanation:**

The cause of the issue is likely due to a DNS resolution issue. While the technician can ping the servers by IP address, they cannot ping the UNC path, indicating an issue with the name resolution. This can be resolved by configuring the correct DNS server settings.

**QUESTION 110**

A technician is troubleshooting intermittent fuzzy video on a computer using a VGA to DisplayPort adapter to connect to a monitor. The monitor with a VGA connector was previously working fine for another user. The technician replaces the adapter; however, the issue persists. Which of the following should the technician do NEXT?

- A. Use another brand of VGA to DisplayPort adapter.
- B. Research the issue further and formulate a new hypothesis to test.
- C. Ask the user additional clarifying questions regarding the issue.
- D. Document the action taken and the outcome.

**Correct Answer: C**

**Section:**

**Explanation:**

<https://spryzensecurity.medium.com/what-is-troubleshooting-methodology-40cec6b6494>The technician should ask the user additional clarifying questions regarding the issue. This will help to identify any other potential causes of the issue, such as software configuration or compatibility issues, before attempting any further troubleshooting steps.

**QUESTION 111**

A technician was called in to look at a user's PC. The user reported the PC was very sluggish. The HDD light on the PC was constantly on without blinking. The PC itself was slow receiving input and took a very long time to load the OS. The technician also noticed updates had failed. Which of the following is MOST likely the cause of these issues?

- A. The hard disk drivers have been corrupted
- B. The HDD cables need reseating.
- C. A RAID disk failed.
- D. The HDD has no free space.



**Correct Answer: D**

**Section:**

**Explanation:**

If a user's PC is very sluggish, the HDD light on the PC is constantly on without blinking, the PC itself is slow receiving input, and it takes a very long time to load the OS, the HDD has no free space is most likely the cause of these issues.

When the hard disk drive (HDD) has no free space, the computer may become slow and unresponsive. The technician should check the amount of free space on the HDD and delete any unnecessary files to free up space.

**QUESTION 112**

A user sends a print job to a network printer, and the print job uses double the amount of paper as expected. Which of the following should the user configure to get the expected result?

- A. Duplex
- B. Collate
- C. Landscape
- D. Transparency

**Correct Answer: A**

**Section:**

**Explanation:**

The user should configure the print job to use the Duplex option, which will print on both sides of the paper and reduce the amount of paper used.



**QUESTION 113**

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 home<sup>123</sup>.

**QUESTION 114**

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 115**

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 116**

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 117**

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 118**

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 119**

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 120**

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 121**

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 122**

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 123

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 124

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 125

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 126

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 127

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 128

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 129

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 130

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 131

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 132

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

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

**Correct Answer: D**

**Section:**

**Explanation:**

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

#### QUESTION 133

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

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

**Correct Answer: D**

**Section:**

**Explanation:**

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

#### QUESTION 134

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



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

**Correct Answer: B**

**Section:**

**Explanation:**

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

#### QUESTION 135

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

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

**Correct Answer: C**

**Section:**

**Explanation:**

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

#### QUESTION 136

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

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

**Correct Answer: D**

**Section:**

**Explanation:**

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

#### QUESTION 137

A technician set up a new access point and has noticed significant latency on the selected channel.

Which of the following tools can assist with locating the BEST channel to use?

- A. Wi-Fi analyzer



- B. Netstat
- C. Net use
- D. Traceroute
- E. Network tap

**Correct Answer: A**

**Section:**

**Explanation:**

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

#### **QUESTION 138**

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

Which of the following steps should the technician complete NEXT?

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

**Correct Answer: D**

**Section:**

**Explanation:**

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

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

#### **QUESTION 139**

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

- A. Identify the location of devices that utilize 2.4GHz.
- B. Check to see if the phones are IJTP or STP lines.
- C. Test to see if the copper electrical Wires are causing interference.
- D. Map all of the wireless signals in the restaurant.
- E. Verify T568B is being used in the wiring closet patch panel.
- F. Schedule timed router reboots throughout the day.

**Correct Answer: A, D**

**Section:**

**Explanation:**

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



**QUESTION 140**

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

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

**Correct Answer: B, E**

**Section:**

**Explanation:**

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

**QUESTION 141**

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

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

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

**Correct Answer: A**

**Section:**

**Explanation:**

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

**QUESTION 142**

Which of the following connectors can be plugged into a Thunderbolt 3 port on a laptop?

- A. miniUSB
- B. microUSB
- C. USB-A
- D. USB-C

**Correct Answer: D**

**Section:**

**Explanation:**

Thunderbolt 3 is a USB-C port, so any device with a USB-C connector can be plugged into it. MiniUSB, microUSB and USB-A are not compatible with Thunderbolt 3.

**QUESTION 143**

An insurance company wants to implement cloud computing and would like a cloud solution in which the infrastructure is shared with businesses in the same industry. Which of the following cloud models BEST addresses the company's need?

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

**Correct Answer: A**

**Section:**

**Explanation:**

The cloud model that BEST addresses the company's need is the Community cloud model. A community cloud is a cloud infrastructure in which multiple organizations share resources and services based on common operational and regulatory requirements. The concept of a communitycloud is akin to a community garden, where different individuals grow produce on a single piece of shared land<sup>1</sup>.

#### QUESTION 144

A technician recently received a written warning for causing a system-wide outage. The outage was a result of an unscheduled patch being manually pushed during production hours. Which of the following could have MOST likely prevented the technician from receiving the warning?

- A. Following corporate procedures
- B. Testing before deployment
- C. Documenting the findings
- D. Establishing a plan of action

**Correct Answer: A**

**Section:**

**Explanation:**

Following corporate procedures would have been the most likely factor that could have prevented the technician from receiving the written warning. Following established procedures, such as change management, helps ensure that changes made to the production environment are thoroughly tested, approved, and implemented in a controlled and safe manner, reducing the risk of system-wide outages and other unintended consequences.

#### QUESTION 145

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

- A. Enable the GPS service to ensure accurate location detection.
- B. Update the PRL when getting to a new location.
- C. Configure less location checks using cellular location services,
- D. use the offices' Wi-Fi IP addresses as the geolocation mechanism.

**Correct Answer: C**

**Section:**

**Explanation:**

The best action for the salesperson to take in order to view weather forecasts while traveling and minimize the battery drain on their mobile device is to configure fewer location checks using cellular location services. This can be done by adjusting the settings for the weather application to limit how often it checks for updates and uses location services. This will help to conserve the battery on the device and keep the application from consuming too much power.

#### QUESTION 146

A user's laptop is running out of disk space and requires a new hard drive. The user wants to replace the existing hard drive with the fastest possible 1 TB HDD. A technician assesses the user's hardware and determines the connections that are available. Which of the following drive types should the technician recommend as the BEST choice?



- A. 1TB NVMe SSD
- B. 1TB flash drive
- C. 1TB SATA SSD
- D. 1TB SAS

**Correct Answer: A**

**Section:**

**Explanation:**

The best choice for the user's laptop is a 1TB NVMe SSD. NVMe (Non-Volatile Memory Express) is a high-performance storage protocol designed specifically for solid-state drives (SSDs). It is significantly faster than SATA SSDs and SAS hard drives, making it ideal for users who need fast storage for their laptop. NVMe SSDs also have lower latency and higher bandwidth than traditional hard drives, making them well-suited for data-intensive tasks such as video editing, gaming, and running multiple applications simultaneously. Additionally, NVMe offers more reliable data reliability than traditional hard drives, and is less susceptible to performance degradation over time.

#### QUESTION 147

A technician is setting up a laptop with an encrypted hard drive. The laptop will securely store a PIN that the user will input at log-on. Which of the following must be installed to set up this configuration?

- A. TPM
- B. HSM
- C. UEFI
- D. ARM

**Correct Answer: A**

**Section:**

**Explanation:**

TPM stands for Trusted Platform Module, and it is a special chip installed on a computer's motherboard that stores encryption keys, passwords, and digital certificates. It can also securely store a user's PIN, allowing them to access the laptop without having to enter the PIN every time they log on. TPM is a secure way to store and protect sensitive data, making it ideal for use in laptops that need to securely store a PIN.

#### QUESTION 148

A user has decided to build a new computer with parts purchased from a popular online vendor. The user has referenced online resources to assemble the unit. However, when the user presses the power button, the new computer does not load the operating system's installer. Instead, the onboard speaker beeps and immediately reports an issue on the screen. Which of the following is the MOST likely issue with the new build?

- A. The user did not plug in the processor's fan.
- B. The user did not apply thermal paste to the CPU.
- C. The user did not seat the GPU correctly.
- D. The user did not install the power supply.

**Correct Answer: A**

**Section:**

**Explanation:**

If a computer is not booting and the onboard speaker emits beeps, it can indicate a hardware issue.

One of the most common causes of beep codes is overheating, which can occur if the processor's fan is not properly installed and running. The processor's fan is responsible for cooling the processor and preventing damage to the internal components.

#### QUESTION 149

A systems administrator is attempting to resolve a ticket regarding an issue with an email server. The administrator is covering for a coworker who was previously working on the ticket. The coworker already gathered facts about the issue and spoke with users concerning their missing emails. The coworker also discovered the email server's retention policy was updated shortly before users first noticed the issue. Which of the following should the systems administrator do

NEXT to resolve the email issue?

- A. Escalate the ticket to a higher level to resolve the email server issue.
- B. Test a theory to determine the cause of the email server issue.
- C. Establish a theory of probable cause for the email server issue.
- D. Create a plan of action to resolve the email server issue.

**Correct Answer: C**

**Section:**

**Explanation:**

Before attempting to resolve the issue, it is important to first determine the cause or probable cause of the issue, so that a plan of action can be developed. In this case, the fact that the retention policy was updated shortly before users first noticed the issue suggests that this could be the cause of the issue. The systems administrator should investigate this further to determine if this is indeed the cause of the email server issue.

#### QUESTION 150

A company wants to give third-party developers access to the corporate network through desktop environments that the company can control. Which of the following can BEST achieve these requirements?

- A. Sandbox
- B. VDI
- C. Private cloud
- D. SaaS

**Correct Answer: B**

**Section:**

**Explanation:**

VDI is a technology that allows a company to provide desktop environments to third-party developers while still maintaining control over the corporate network. VDI creates virtual desktops on a remote server, and each user gets their own desktop environment that is isolated from the other users. This allows the company to maintain control over the corporate network, as the virtual desktops are not directly connected to the corporate network.

#### QUESTION 151

A tier one technician has spent the past thirty minutes troubleshooting an Issue With an end user's network connection After a solution was implemented, the end user rebooted the system, tested the Issue, and confirmed the Issue was resolved. Which of the following should the technician do NEXT?

- A. Document the findings, actions, and solution in the company knowledge base
- B. Advise the user to try the solution before contacting the help desk if the Issue happens again
- C. Establish a theory of probable cause
- D. Escalate the Issue to the tier two support team for resolution.

**Correct Answer: A**

**Section:**

**Explanation:**

According to the Official CompTIA A+ Core 1 Study Guide (220-1101) 1, the correct answer is A.

Document the findings, actions, and solution in the company knowledge base.

The explanation is that after resolving an issue, a technician should always document what was done and how it was fixed. This helps to create a record of the problem and its solution for future reference and also to share knowledge with other technicians.

<https://www.comptia.org/training/books/a-core-1-220-1101-study-guide> By documenting the findings, actions, and solution in the company knowledge base, it will help to ensure that if the Issue happens again, the technician or a different technician will be able to quickly and easily find the solution and resolve the Issue. Additionally, it is important to document the solution so that the same Issue does not need to be troubleshot multiple times in the future.

**QUESTION 152**

A user is looking for a way to increase the total RAM in a system without upgrading the hardware. Which of the following should the user perform to complete this task?

- A. Run a burn-in application
- B. Create a VM.
- C. Install hardware-tuning software.
- D. Set up virtual memory.

**Correct Answer: D**

**Section:**

**Explanation:**

Virtual memory is a software-based memory management system that allows a computer to use hard disk storage space as RAM. This can be used to increase the total RAM in a system without upgrading the hardware. To set up virtual memory, the user should go to the System Properties window and select the Advanced tab. In the Performance section, click on the Settings button, which will open the Performance Options window. Then, click on the Advanced tab and click on the Change button in the Virtual memory section. Finally, select the option to Automatically manage paging file size for all drives, and then click OK to save the changes.

**QUESTION 153**

A user's track pad has stopped working. Which of the following should the user do to resolve the track pad's functionality?

- A. Reinstall the mouse drivers
- B. Use the Function key.
- C. Calibrate the digitizer
- D. Configure the mouse settings

**Correct Answer: B**

**Section:**

**Explanation:**

The correct answer is B. Use the Function key.

The explanation is that some laptops have a Function key (Fn) that can be used to toggle the track pad on or off. This can be useful if the user wants to use an external mouse instead of the track pad, or if the track pad is accidentally activated by palm movements. The user should look for a Fn key on their keyboard and a track pad icon on one of the other keys, such as F5 or F9, and press them together to enable or disable the track pad.

**QUESTION 154**

A technician is troubleshooting a laptop that has a blank LCD panel. The technician shines a flashlight into the LCD and sees a faint image. Which of the following BEST describes the issue?

- A. Defective inverter
- B. Incomplete video driver
- C. Incorrect input source
- D. Burned-out bulb

**Correct Answer: A**

**Section:**

**Explanation:**

an inverter is a device that converts DC power from the laptop's battery or AC adapter to AC power for the backlight of the LCD panel. If the inverter is defective, the backlight will not work and the LCD panel will appear blank or very dim.



The user can still see a faint image if they shine a flashlight into the LCD because the LCD itself is still working.

**QUESTION 155**

The motherboard on a user's company laptop was recently replaced. Now the user is unable to log in using the fingerprint reader. The fingerprint reader is working but it does not recognize the user's fingerprint. Which of the following should a technician perform FIRST to fix the issue?

- A. Restore the system to a previous recovery point
- B. Reinstall the fingerprint software
- C. Access the BIOS and clear the TPM
- D. Update the drivers and the fingerprint software
- E. Flash the newest BIOS firmware that is available

**Correct Answer: B**

**Section:**

**Explanation:**

If a user is unable to log in using the fingerprint reader on a company laptop after the motherboard was replaced, it could be due to an issue with the fingerprint software. The first step to fix the issue would be for the technician to reinstall the fingerprint software.

**QUESTION 156**

An organization keeps receiving spam that appears to come from its own domain. No accounts have been compromised. Which of the following will BEST mitigate this issue?

- A. DNS
- B. S/MIME
- C. SPF
- D. SSID



**Correct Answer: C**

**Section:**

**Explanation:**

The BEST solution to mitigate spam that appears to come from an organization's own domain is to implement SPF (Sender Policy Framework). SPF is an email validation protocol designed to detect and prevent email spoofing, which is a common tactic used by spammers. By publishing SPF records in the organization's DNS (Domain Name System), the recipient's mail server can check if an incoming email originated from a valid source. If the email fails SPF authentication, it can be blocked or flagged as spam. Therefore, SPF helps to prevent email spoofing and mitigate the risk of spam coming from an organization's own domain.

**QUESTION 157**

A technician is on site troubleshooting a customer's laptop. The technician needs to download a software update but the company's proxy is blocking updates. Which of the following would be the MOST appropriate action for the technician to take to get the update?

- A. Connect to a hotspot
- B. Request a traffic exemption.
- C. Change the DNS address to 1.1.1.1
- D. Update the Group Policy settings

**Correct Answer: B**

**Section:**

**Explanation:**

If a technician is on site troubleshooting a customer's laptop and needs to download a software update but the company's proxy is blocking updates, the most appropriate action for the technician to take would be to request a traffic exemption from the company's IT department.

**QUESTION 158**

New memory modules were installed in several Windows desktops but some users are still reporting performance issues. Upon investigation, a systems administrator notices the desktop has not recognized the new memory modules. Which of the following should the systems administrator perform to help resolve this issue?

- A. Configure appropriate settings within the BIOS
- B. Replace the RAM
- C. Modify the boot. ini file.
- D. Install the required drivers through the Control Panel

**Correct Answer: A**

**Section:**

**Explanation:**

To resolve the issue of new memory modules not being recognized, the systems administrator should configure appropriate settings within the BIOS. This can include enabling memory mapping or setting memory speed and timings.

Reference: CompTIA A+ Certification Exam Objectives, 220-1001 Section 1.8 Configure appropriate settings within the BIOS. If new memory modules were installed in several Windows desktops but some users are still reporting performance issues and the desktop has not recognized the new memory modules, the systems administrator should configure appropriate settings within the BIOS to help resolve this issue.

**QUESTION 159**

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

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

**Correct Answer: B**

**Section:**

**Explanation:**

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

**QUESTION 160**

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

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

**Correct Answer: D**

**Section:**

**Explanation:**

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

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

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

**QUESTION 161**

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





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

**Correct Answer: A**

**Section:**

**Explanation:**

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

#### QUESTION 162

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

- A. Empty imager drum
- B. Overheated system fuser
- C. Scratched scanner glass
- D. Third-party toner

**Correct Answer: C**

**Section:**

**Explanation:**

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

#### QUESTION 163

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

- A. SATASSD
- B. SATA HDD
- C. M2PCIeNVMeSSD
- D. PCIe SATA HDD

**Correct Answer: C**

**Section:**

**Explanation:**

M2PCIeNVMeSSD. M.2 PCIe NVMe SSDs are the fastest internal storage devices available for desktops. They are faster than SATA SSDs and PCIe SATA HDDs.

#### QUESTION 164

Which of the following components houses the MX record?

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

**Correct Answer: A**

**Section:**

**Explanation:**

The MX record is housed in the DNS (Domain Name System) which is responsible for translating domain names into IP addresses and vice versa. The MX record specifies the mail server responsible for accepting email messages on behalf of a domain name and is a resource record in the DNS123.

**QUESTION 165**

A technician is working with a vendor to resolve an issue that a user reported. The vendor indicates that the technician's next step is to update the firmware. Which of the following is the most important step the technician should take before proceeding?

- A. Verify the device is fully charged and connected to a power supply.
- B. Ensure the device has adequate storage space for the update.
- C. Verify administrative access on the device.
- D. Export the users settings so they can be imported after the upgrade

**Correct Answer: A**

**Section:**

**Explanation:**

The most important step the technician should take before proceeding is A. Verify the device is fully charged and connected to a power supply.

Firmware is a type of software that controls the basic functions and operations of a device, such as a router, printer, or scanner. Firmware can be updated to fix bugs, improve performance, or add new features to the device.

However, updating firmware can also be risky, as it may cause the device to malfunction or become unusable if the update process is interrupted or corrupted.

One of the main causes of firmware update failure is power loss, which can occur if the device runs out of battery or is disconnected from the power source during the update. Power loss can damage the firmware and prevent the device from booting up or functioning properly. Therefore, it is essential to verify that the device is fully charged and connected to a power supply before updating the firmware. This can ensure that the device has enough power to complete the update process and avoid any interruptions or errors.

The other options are not as important as verifying the power status of the device. Ensuring the device has adequate storage space for the update is a good practice, but it is not likely to cause a major problem if the device does not have enough space. The update process will either fail to start or prompt the user to free up some space before proceeding. Verifying administrative access on the device is also a good practice, but it is not necessary for updating firmware. Administrative access is required for installing or uninstalling software applications, but not for updating firmware. Firmware updates are usually provided by the device manufacturer or vendor and do not require user authentication. Exporting the user settings so they can be imported after the upgrade is a precautionary measure, but it is not mandatory for updating firmware. Firmware updates do not usually affect the user settings or data on the device, unless they are incompatible or corrupted. Exporting the user settings can help restore them in case of any problems, but it does not prevent them from occurring.

**QUESTION 166**

A user takes a tablet to a technician because the cursor on it keeps drifting. The technician notices the screen does not appear to be damaged. Which of the following is the most likely cause of the cursor issue?

- A. The screen is physically damaged.
- B. The screen rotation is incorrect.
- C. The touch-pen battery is depleted.
- D. The screen needs to be recalibrated.

**Correct Answer: D**

**Section:**

**Explanation:**

The screen needs to be recalibrated. The cursor drift is a common symptom of a misaligned touch screen, which can be caused by physical shocks, temperature changes, or software updates. The screen can be recalibrated using the tablet's settings or a utility program. The screen is not physically damaged, as there is no visible crack or break. The screen rotation is not related to the cursor drift, as it only affects the orientation of the display. The touch-pen battery is not relevant, as the cursor drift occurs even without using the pen.

Reference: [CompTIA A+ Core 1 (220-1101) Certification Study Guide], page 15.

**QUESTION 167**

A customer's Windows tablet PC was dropped and is no longer responding to touch input on the left half of the screen. The screen protector has several scratches. but the glass is not broken. Which of the following should a technician do to diagnose the issue?

- A. Test the digitizer
- B. Update the device drivers.
- C. Replace the damaged screen protector
- D. Perform a factory reset.

**Correct Answer: A**

**Section:**

**Explanation:**

The digitizer is the component that converts the touch input into electrical signals that are processed by the tablet. If the digitizer is damaged or malfunctioning, it may not register the touch input correctly or at all. The technician can test the digitizer using a diagnostic tool or by replacing it with a known good one. Updating the device drivers, replacing the damaged screen protector, or performing a factory reset are unlikely to fix the issue, as they do not address the hardware problem.

Reference: [CompTIA A+ Core 1 (220-1101) Certification Study Guide], page 16.

#### QUESTION 168

A user would like a removable storage device that is secure, portable, and does not contain moving parts. Which of the following devices would be the most suitable?

- A. HDD
- B. NAS
- C. SSD
- D. SAN

**Correct Answer: C**

**Section:**

**Explanation:**

An SSD (solid state drive) is a removable storage device that uses flash memory to store data. It is secure, portable, and does not contain moving parts, which makes it more reliable and durable than other types of storage devices. An HDD (hard disk drive) is not suitable, as it contains spinning platters and read/write heads that are prone to damage and data loss. A NAS (network attached storage) and a SAN (storage area network) are not removable devices, as they are connected to a network and provide shared storage for multiple users.

Reference: [CompTIA A+ Core 1 (220-1101) Certification Study Guide], page 23.

#### QUESTION 169

Which of the following is the purpose of an IPv4 gateway?

- A. To distribute IP addresses
- B. To generate ARP traffic
- C. To assign APIPA addresses
- D. To route traffic to the next network

**Correct Answer: D**

**Section:**

**Explanation:**

To route traffic to the next network. An IPv4 gateway is a device that connects two or more networks and forwards packets based on their destination IP addresses. It acts as an intermediary between a host and the rest of the internet, allowing communication across different networks. A gateway does not distribute IP addresses, generate ARP traffic, or assign APIPA addresses, as these are functions of other network components.

Reference: [CompTIA A+ Core 1 (220-1101) Certification Study Guide], page 29.

#### QUESTION 170

A user has been unable to configure a smart device to play audio on a new Bluetooth speaker. A technician confirms that Bluetooth is enabled on both devices. Which of the following should the technician do to ensure the pairing is successful?

- A. Enable and configure MFA on the smart device.
- B. Synchronize all data to the cloud.
- C. Enable location services on the smart device to find the speaker.
- D. Enter the appropriate PIN code on the smart device.

**Correct Answer: D**

**Section:**

**Explanation:**

To pair a Bluetooth speaker with a smart device, the user needs to enter the PIN code that is provided by the speaker manufacturer or displayed on the speaker itself. This is a security measure to prevent unauthorized pairing and access. Enabling and configuring MFA, synchronizing data to the cloud, or enabling location services are not required for Bluetooth pairing.

Reference: [CompTIA A+ Core 1 (220-1101) Certification Study Guide], page 14.

#### **QUESTION 171**

Which of the following server types can dynamically assign primary and secondary DNS?

- A. DHCP server
- B. Global catalog server
- C. Web server
- D. Name server

**Correct Answer: A**

**Section:**

**Explanation:**

A DHCP (Dynamic Host Configuration Protocol) server is a server type that can dynamically assign IP addresses and other network configuration parameters to clients, such as primary and secondary DNS (Domain Name System) servers. DNS servers are responsible for resolving hostnames to IP addresses and vice versa. A global catalog server, a web server, and a name server are not involved in DHCP operations.

Reference: [CompTIA A+ Core 1 (220-1101) Certification Study Guide], page 30.

#### **QUESTION 172**

A user has been having issues charging a laptop after turning it on and has noticed the laptop screen is dim. Which of the following components most likely needs to be replaced?

- A. LCD
- B. Video card
- C. Digitizer
- D. inverter

**Correct Answer: D**

**Section:**

**Explanation:**

An inverter is a component that converts DC power to AC power for the backlight of an LCD (liquid crystal display) screen. If the inverter is faulty, the screen may appear dim or dark, even if the brightness settings are adjusted. Replacing the inverter may fix the issue. The LCD itself, the video card, and the digitizer are not related to the screen brightness problem.

Reference: [CompTIA A+ Core 1 (220-1101) Certification Study Guide], page 17.

#### **QUESTION 173**

An administrator is replacing 15,000rpm hard drives in a server. Which of the following is the interface type the drives most likely use?

- A. IDE

- B. SAS
- C. eSATA
- D. SATA

**Correct Answer: B**

**Section:**

**Explanation:**

SAS (Serial Attached SCSI) is an interface type that supports high-speed data transfer and highperformance hard drives, such as 15,000rpm drives. SAS drives are commonly used in servers that require fast access and reliability. IDE (Integrated Drive Electronics), eSATA (external SATA), and SATA (Serial ATA) are not suitable for 15,000rpm drives, as they have lower speed and performance.

Reference: [CompTIA A+ Core 1 (220-1101) Certification Study Guide], page 22.

#### QUESTION 174

Several users report that a projector routinely turns off in the middle of meetings and does not turn back on immediately. Users have to wait several minutes before the projector will turn back on. When the projector is on, the picture is clear and bright. Which of the following is the most likely reason the projector is turning off?

- A. The video cable connecting the video source to the projector is failing.
- B. The bulb in the projector is failing.
- C. The projector is overheating and needs to be cleaned.
- D. The outlet that the projector is plugged into is faulty.

**Correct Answer: C**

**Section:**

**Explanation:**

The projector is overheating and needs to be cleaned. A common cause of projector shutdown is overheating, which can be triggered by dust accumulation, blocked vents, or faulty fans. The projector has a thermal protection circuit that turns it off when the temperature reaches a certain level, and it will not turn back on until it cools down. To prevent this issue, the projector needs to be cleaned regularly and placed in a well-ventilated area. The video cable, the bulb, and the outlet are not likely to cause the projector to turn off intermittently.

Reference: [CompTIA A+ Core 1 (220-1101) Certification Study Guide], page 18.

#### QUESTION 175

A technician configured a new SOHO router for a small business. The ISP gave the technician an IP address on the router's WAN port. Which of the following addresses did the technician most likely configure on the router?

- A. 10.1.50.30
- B. 19.45.7.28
- C. 169.254.168.10
- D. 172.22.40.6

**Correct Answer: B**

**Section:**

**Explanation:**

This is an example of a public IP address that can be assigned by an ISP to a router's WAN (Wide Area Network) port. A public IP address is a globally unique and routable address that allows a device to communicate with other devices on the internet. A private IP address, such as 10.1.50.30 or 172.22.40.6, is a non-routable address that is used within a local network and cannot be directly accessed from the internet. A link-local IP address, such as 169.254.168.10, is a self-assigned address that is used when a device cannot obtain a valid IP address from a DHCP server.

Reference: [CompTIA A+ Core 1 (220-1101) Certification Study Guide], page 27.

#### QUESTION 176

A help desk technician receives a ticket regarding a non-functioning printer. The ticket states the printer is no longer producing legible prints, and everything that prints appears as symbols. Which of the following is the most likely cause of this issue?

- A. Driver
- B. Fuser
- C. Access control list
- D. Malware

**Correct Answer: A**

**Section:**

**Explanation:**

A driver is a software component that enables the communication between the operating system and a hardware device, such as a printer. If the driver is corrupted, outdated, or incompatible, the printer may not function properly and produce illegible prints or symbols. The driver can be reinstalled or updated to fix the issue. The fuser, the access control list, and the malware are not related to this issue.

Reference: [CompTIA A+ Core 1 (220-1101) Certification Study Guide], page 11.

#### QUESTION 177

Which of the following network devices should a technician install in order to isolate voice traffic on the network?

- A. Network tap
- B. Managed switch
- C. Hub
- D. DSL filter

**Correct Answer: B**

**Section:**

**Explanation:**

A managed switch is a network device that can be configured to create VLANs (Virtual Local Area Networks), which are logical segments of a network that isolate traffic based on criteria such as function, security, or quality of service. A VLAN can be used to isolate voice traffic on the network, which can improve the performance and security of voice over IP (VoIP) applications. A network tap, a hub, and a DSL filter are not capable of creating VLANs.

Reference: [CompTIA A+ Core 1 (220-1101) Certification Study Guide], page 32.

#### QUESTION 178

A user needs to transfer files from an Apple phone to a workstation. Which of the following connection types should the user utilize?

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

**Correct Answer: C**

**Section:**

**Explanation:**

Lightning is a proprietary connection type that is used by Apple devices, such as iPhones, iPads, and iPods, to transfer data, charge, and connect to accessories. Lightning cables have a reversible 8-pin connector that can be plugged into a USB port on a workstation or a power adapter. USB-C, serial, and NFC are not compatible with Apple phones.

Reference: [CompTIA A+ Core 1 (220-1101) Certification Study Guide], page 13.

#### QUESTION 179

The Wi-Fi network in the office is experiencing slow connection speeds. Which of the following should the technician check first on the access point?

- A. Transmit power settings
- B. Security settings

- C. Firmware version
- D. Location

**Correct Answer: A**

**Section:**

**Explanation:**

The transmit power settings of the access point determine how strong the Wi-Fi signal is. If the transmit power is too low, the Wi-Fi network will have slow connection speeds and poor coverage. If the transmit power is too high, the Wi-Fi network will interfere with other nearby networks and devices, causing congestion and performance issues. Therefore, the technician should check the transmit power settings first and adjust them to an optimal level for the office environment.

Reference:

- 8 Reasons Why Your Internet is Slow (and How to Fix It), section "You have weak Wi-Fi signals".
- 6 Things Slowing Down Your Wi-Fi (And What to Do About Them) - How-To Geek, section "Channel Congestion Dings Wi-Fi Performance".

#### QUESTION 180

A user frequently edits large files and saves them locally on a laptop\_ The user has recently begun experiencing performance issues and needs a cost-effective hardware upgrade. Which of the following is the best way to meet the user's requirements?

- A. Upgrade the memory
- B. Upgrade to a larger GPU.
- C. Upgrade to an SSD.
- D. Upgrade to a faster CPU.

**Correct Answer: C**

**Section:**

**Explanation:**

Upgrading to an SSD (Solid State Drive) is the best way to meet the user's requirements because it will improve the performance and storage capacity of the laptop. SSDs are faster than HDDs (Hard Disk Drives) because they have no moving parts and can access data more quickly. SSDs also have lower power consumption, lower heat generation, and higher reliability than HDDs. Therefore, upgrading to an SSD will make the laptop more responsive, boot faster, and handle large files better.

According to some web sources, SSDs are the best hard drives for video editing because they can streamline the workflow and store masses of footage in one easy-to-access place<sup>1</sup>. SSDs are also one of the most common PC upgrades that can make a dramatic difference, especially for aging systems<sup>2</sup>.

Additionally, Adobe recommends using SSDs for Premiere Pro and After Effects because they can handle large media files and cache data more efficiently<sup>3</sup>.

Reference:

- The best hard drives for video editing in 2023, section "Best SSD overall".
- The Five Best PC Upgrades to Improve Performance, section "Add a Solid-State Drive".
- Hardware recommendations for Premiere Pro and After Effects, section "Storage".

#### QUESTION 181

Which of the following is the best example of when to use virtualization?

- A. To manage shared folders by user accounts
- B. To deploy software updates to user machines
- C. To enhance security by centralizing all user desktops
- D. To prevent users from circumventing password policies

**Correct Answer: C**

**Section:**

**Explanation:**

One of the benefits of virtualization is that it allows you to create and manage multiple virtual machines (VMs) on a single physical computer. This can be used to enhance security by centralizing all user desktops on a server,



rather than storing them on individual user machines. This way, the user desktops can be isolated from each other and from the host machine, preventing malware infections, data breaches, and unauthorized access. Additionally, the user desktops can be easily backed up, restored, updated, and monitored by the administrator, reducing the risk of data loss and downtime. This type of virtualization is called desktop virtualization, and it separates the desktop environment from the physical hardware the user interacts with<sup>1</sup>. The user can access their virtual desktop from any device, such as a laptop, tablet, or smartphone, using a remote display protocol. The user experience is similar to using a local desktop, but with improved security and manageability.

Reference:

- What Is Virtualization, and Why Should You Use it?, section "Desktop Virtualization".

#### QUESTION 182

A technician is installing the RAM for a graphics workstation. Which of the following is special purpose memory used by graphic controllers?

- A. SRAM
- B. MicroDIMM
- C. VRAM
- D. Unbuffered DIMM

**Correct Answer: C**

**Section:**

**Explanation:**

VRAM (Video Random Access Memory) is a special-purpose memory type used by graphics controllers to store image data that is displayed on the screen. VRAM is faster and more expensive than regular RAM, and it allows the graphics controller to access the image data directly without involving the CPU or the system memory. VRAM can improve the performance and quality of graphics-intensive applications, such as video editing, gaming, and 3D rendering.

Reference:

- Ram Flashcards | Quizlet, question "Which of the following is a special-purpose memory type used by graphics controllers?".
- Nvidia Unveils Big Accelerator Memory: Solid-State Storage for GPUs, paragraph 4.
- US5801706A - Special purpose memory for graphics and display apparatus ..., abstract.



#### QUESTION 183

A team is having issues with paper jams on a printer that the team shares with other teams. The team that is having issues prints legal-sized documents, and the other teams print letter-sized documents. Which of the following is most likely the issue?

- A. Worn rollers
- B. Page orientation
- C. Tray settings
- D. Multipage misfeed

**Correct Answer: C**

**Section:**

**Explanation:**

The most likely issue is C. Tray settings.

Tray settings are the configuration options that tell the printer what type and size of paper is loaded in each tray. If the tray settings do not match the actual paper loaded, it can cause paper jams, misalignment, or incorrect printing. For example, if the printer expects letter-sized paper (8.5 x 11 inches) but the tray contains legal-sized paper (8.5 x 14 inches), the printer may try to pull more paper than it needs, resulting in a jam.

To fix this issue, the team should check and adjust the tray settings according to the paper they are using. They should also make sure that the paper is loaded correctly and not overfilled or mixed with different sizes or types of paper. Some printers have a manual feed option that allows users to select the paper size and type before printing, which can prevent paper jams from occurring.

Reference:

- Fix Paper Jam Errors | HP® Support, section "Paper jams".
- Common Causes of Paper Jams and How to Fix Them - 1ink.com, section "Make Sure You're Loading the Paper Correctly".
- How to Fix a Paper Jam in a Printer - Computer Hope, section "Paper tray is overloaded or not loaded correctly".

#### QUESTION 184



A user returns to work after a two-week vacation and cannot connect to an internal server. The remote drives were working the last time the user accessed them. Which of the following steps should the technician take next?

- A. Conduct external research on the server software vendor's website.
- B. Reference the server vendor's documentation for guidance.
- C. Confirm a theory and determine the next steps to resolve the issue.
- D. Determine if any infrastructure changes have been made.

**Correct Answer: D**

**Section:**

**Explanation:**

The first step in troubleshooting any network connectivity issue is to identify the scope and source of the problem. The technician should check if any infrastructure changes have been made during the user's absence, such as updates, patches, configuration changes, or hardware replacements. These changes could affect the network settings, firewall rules, permissions, or compatibility of the user's device or the server. The technician should also verify if other users or devices can access the server or if the problem is isolated to the user's device. By determining if any infrastructure changes have been made, the technician can narrow down the possible causes and formulate a theory to test.

Reference

Chapter 5: Hardware and Network Troubleshooting

How to fix HTTP 500 internal server error?

Remote desktop connection: An internal error has occurred

#### **QUESTION 185**

Which of the following best describes metered utilization for cloud computing?

- A. Cloud resources are billed to clients based on usage.
- B. Cloud resources are shared with other companies conducting similar business.
- C. Cloud resources are available at a fixed amount for a fixed price.
- D. Cloud resources are located in the on-site data center.



**Correct Answer: A**

**Section:**

**Explanation:**

Metered utilization for cloud computing is a pricing model where cloud service providers charge clients based on the amount of resources they consume, such as network bandwidth, storage space, CPU cycles, or memory. This allows clients to pay only for what they use, rather than a fixed amount or a subscription fee. Metered utilization can also enable clients to scale their cloud resources up or down according to their needs and demand.

Understanding Metered Billing For Cloud Infrastructure - Togai: This article explains the concept of metered billing, its advantages, and how it works for cloud infrastructure services.

Usage Metering and Throttling in Cloud Computing: This article discusses the importance of metering and throttling in cloud computing, and how they are implemented in WSO2 Stratos, a cloud platform as a service (PaaS) solution.

Cloud Volumes Service Metered Billing: Control Your Cloud ... - NetApp: This article describes how NetApp's Cloud Volumes Service offers metered billing for cloud storage, and how it can help clients reduce their cloud costs and optimize their performance.