

Professor Messer's
ComptIA A+

CORE 1 220-1201

Practice Exams

James "Professor" Messer

Professor Messer's CompTIA A+ 220-1201 Core 1 Practice Exams

by James “Professor” Messer



<https://www.ProfessorMesser.com>

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Written by James "Professor" Messer

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About the Author

James "Professor" Messer is an information technology veteran whose career has included supercomputer operations, system administration, network management, and cybersecurity.

James is also the founder and CEO of Messer Studios, a leading publisher of training materials for IT certification exams. With over 230 million videos viewed and over 1 million subscribers, Professor Messer's training programs have helped thousands realize their goals of a profession in information technology.

Introduction

The CompTIA A+ is one of the most popular IT certifications in the industry, and I think it's also one of the most enjoyable study experiences. Whether you're just getting started in information technology or you're a seasoned veteran, you have to appreciate the vast array of hardware and software covered in the A+ exams. If you love technology, then the A+ certification is for you.

I've created these sample exams to help you learn what you'll need to pass the exam, but I also hope they provide some additional context and knowledge you can use once the certification process is over.

In information technology, the learning process never ends. I wish you the best success on your journey!

- Professor Messer

The CompTIA A+ Core 1 Certification Exam

The CompTIA A+ 220-1201 Core 1 certification exam covers many different topics and includes everything from hardware troubleshooting to cloud technologies. Here's the breakdown of each domain and the percentage of each topic on the A+ 220-1201 exam:

Domain 1.0 - Mobile Devices - 13%

Domain 2.0 - Networking - 23%

Domain 3.0 - Hardware - 25%

Domain 4.0 - Virtualization and Cloud Computing - 11%

Domain 5.0 - Hardware and Network Troubleshooting - 28%

The practice exams in this book follow this breakdown, so you should find the distribution of questions on these practice exams to be very similar to what you'll find during your actual exam.

Performance-based questions

The first handful of questions on the A+ exam are performance-based questions. Performance-based questions are a flexible style of questioning can take many different forms; matching, drag and drop, sorting, scenario, command-line, or nearly any other style.

Because these question types can vary, it's very difficult to accurately predict the exact style of questions which might appear on an actual exam. However, all of the performance-based questions are based on the Official CompTIA Exam Objectives, so a solid foundation in the objectives will provide the test taker with everything they need to successfully answer these questions. If you are familiar with all of the objectives, it really doesn't matter how CompTIA asks the questions.

Multiple choice questions

Unlike performance-based questions, multiple choice questions have a familiar format for most test takers. Multiple choice questions consist of a single question followed by multiple possible answers. The test taker will need to select one or more of the possible answers to successfully complete the question.

You'll need to be familiar with the style of both performance-based questions and multiple choice questions. In this book of practice exams, you'll find examples of both question types in each of the three tests.

How to Use This Book

This book contains three separate 90-question practice exams; Exam A, Exam B, and Exam C. The exams are designed to emulate the format and complexity of the actual A+ exam.

- Take one exam at a time. The difficulty levels are similar between exams, so it doesn't matter which exam you take first.
- The A+ exams are 90 minutes in length, so you may want to set a timer when you start your practice exam. Time management is an important part of the exam.

- The first section of each practice exam is the list of questions. There's a link next to every question labeled "Quick Answer" or "The Details", and this link will jump immediately to the quick answer page or the detailed answer page. If you're using the digital version, your PDF reader keys can quickly jump back to the question page. Adobe Reader in Windows uses **Alt-Left arrow** and macOS Preview uses **Command-[** to move back to the previous view. Be sure to check your PDF reader for specific navigation options.
- The quick answer page is a consolidated list of the answers without any detail or explanation. If you want to quickly check your answer sheet, this is the page for you.
- A detailed answer is available for each exam question. This section repeats the question, the possible answers, and shows the answer with a detailed explanation. This section is formatted to show only one answer per page to avoid giving away the answer to any other questions. After reading the detailed answer, you can use your PDF reader's "back" button to quickly jump back to the original question.
- As you step through the exam, make a note of your answers in a separate window or use your PDF reader's annotation features to mark the answer. You can check the answers after the 90 minutes have elapsed.
- You can grade your results against the quick answer page. You might also want to check the detailed answer pages for information on why certain answers were considered correct or incorrect.
- After each detailed answer, a video link is available for more information on the topic. You can click the link in your PDF or use your smartphone camera app to view the QR (Quick Response) code on the page. Your camera app will provide a notification message and will launch the video page in your browser. The URL is also provided for manual entry.
- You have the option of using each practice test as a 90 minute timed exam, or as a casual Q&A. Try stepping through each question, picking an answer, and then jumping to the detailed explanation to learn more about each possible answer.

How to score the practice exams

Broadly speaking, the purpose of this book is to determine your readiness for the A+ exam. Although we've worked hard to provide you with a similar experience as the actual exam, we're not trying to reverse-engineer CompTIA's scoring system. CompTIA doesn't share the details of their scoring system, so any attempt at recreating an actual exam score would be speculative and almost certainly incorrect.

Many of the questions in this book have a single answer. If you get the question right, you would obviously give yourself one point. Some of the exam questions require multiple answers, and this is especially common with performance-based questions. With these questions, you could potentially get part of a question correct and other parts of the question incorrect.

Our recommendation is to count each question as one point, but you could also give yourself partial credit to help provide a better measurement of your readiness. You ultimately don't have any control over the scoring on the actual exam, so we would recommend you focus on the content and let the score provide a relative measurement of your success.

Here's a scoring chart you could use :

Less than 63 questions correct / 70% and lower - Use the exam objectives at the end of each detailed answer to determine where you might need some additional help.

63 to 72 questions correct / 70% to 80% - You're so close! Keep working on the areas you're missing and fill in those gaps.

73 to 81 questions correct / 80% to 90% - This is a strong showing, but some additional studying will help you earn points on the real exam.

Although the actual A+ exam does not calculate the final score as a percentage, getting an 85% on the practice exam can be reasonably considered a passing grade.

More than 81 questions correct / over 90% - You're ready for the real thing! Book your exam and pass your A+ exam!

The detailed answer pages break down every correct answer and every incorrect answer. Although it's useful to know when you got a question right, it's more important if you understand exactly why a question was marked wrong. If you understand all of the technologies on these sample exams, then you'll be ready for the actual exam.

Practice Exam A

Performance-Based Questions

A1. Match the connector name and most common use to the picture:

Pick an interface:

HDMI

DB-9

Lightning

USB-C

RJ45

SC

Pick a common use for the interface:

Use an external SSD

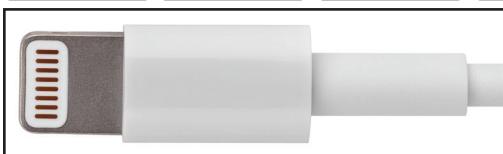
Charge an older iPad

Run fiber to a building

Connect to a monitor

Use a console interface

Connect to wired Ethernet



()

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()

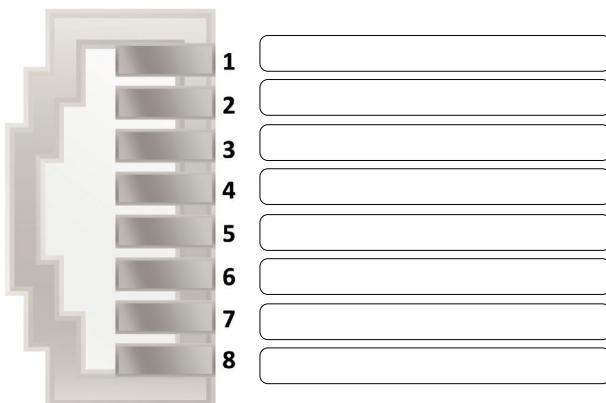


()

()

Answer Page: 33

- A2.** A technician is crimping an RJ45 connector using the T568B color standard. Which colors should the technician use for each pin?



Answer Page: 35

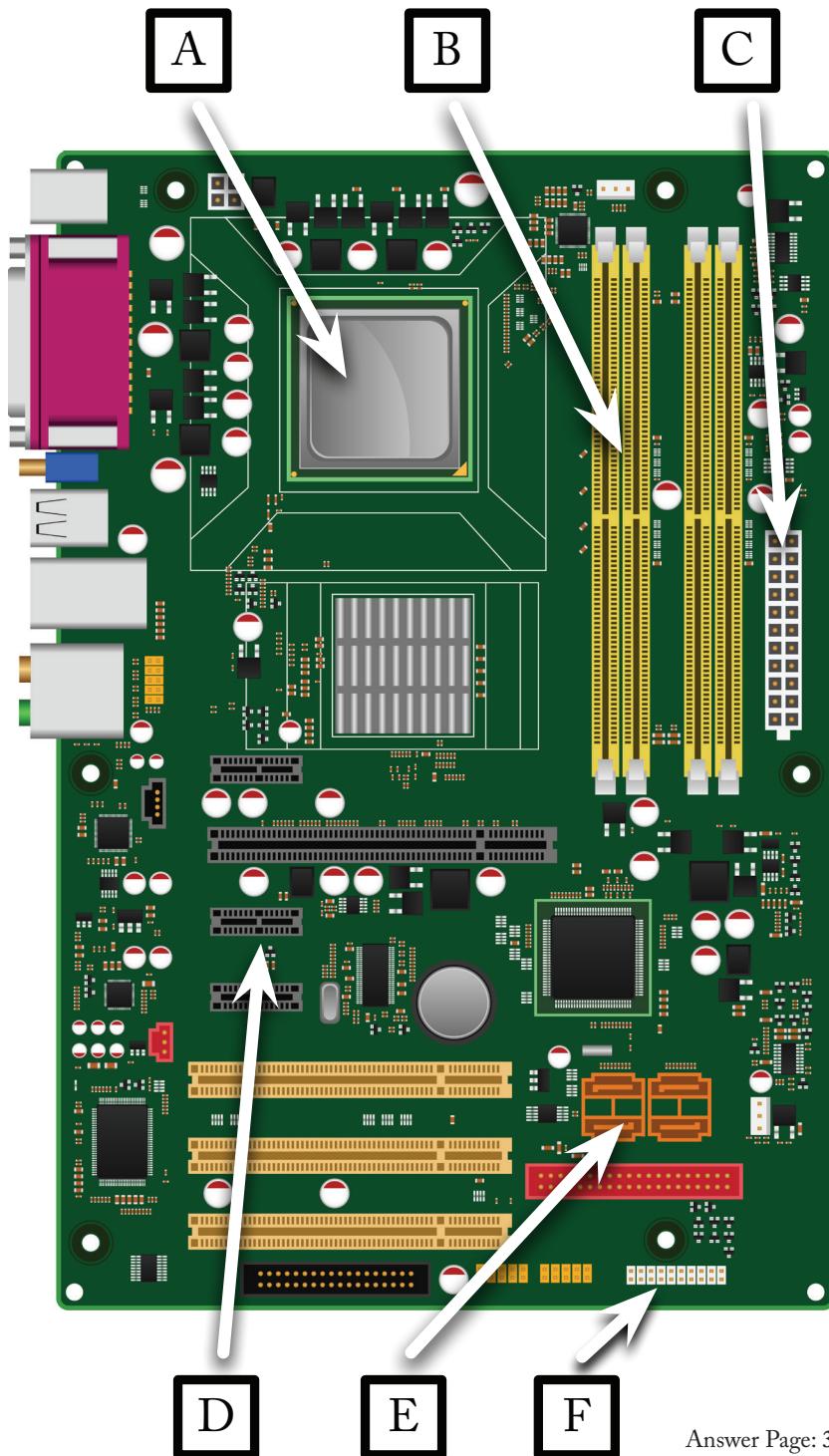
- A3.** Match the port number to the protocol. Not all port numbers will be used.

<input type="button" value="tcp/389"/>	<input type="button" value="tcp/80"/>	<input type="button" value="tcp/110"/>	<input type="button" value="tcp/3389"/>
<input type="button" value="tcp/25"/>	<input type="button" value="tcp/445"/>	<input type="button" value="udp/67"/>	<input type="button" value="tcp/143"/>
<input type="button" value="tcp/22"/>	<input type="button" value="tcp/23"/>	<input type="button" value="udp/53"/>	<input type="button" value="tcp/443"/>

<input type="button" value=" "/>	HTTPS
<input type="button" value=" "/>	LDAP
<input type="button" value=" "/>	DNS
<input type="button" value=" "/>	IMAP
<input type="button" value=" "/>	SMB
<input type="button" value=" "/>	RDP
<input type="button" value=" "/>	SSH

Answer Page: 36

A4. Identify the components on this motherboard:



Answer Page: 37

A5. Match the symptoms to the most likely resolution:

Symptoms

The laptop is on, but a connected external monitor is blank

The LCD display output is fuzzy and isn't as crisp as other displays

The colors on the screen look different than the actual printed colors

The image on the screen is visible after the app is closed

The icons on the screen are very small

An LCD monitor occasionally will turn completely black for three seconds

An LCD projector turns off after less than 5 minutes of use

Resolutions

A

Replace the display

B

Disable time-of-day color shifting

C

Monitor input is incorrect

D

Replace the video data cable

E

Increase the scaling percentage

F

Clean dust from the air filters

G

Non-native resolution is configured

Answer
Page: 38

Practice Exam A

Multiple Choice Questions

- A6. The printer in the accounting department has stopped all printing processes. The print queue shows seven jobs in the queue waiting to be printed. Which of the following would be the best next troubleshooting step?
- A. Send a test job to the printer and move it to the top of the queue
 - B. Restart the printer's spooler
 - C. Install an updated version of the printer driver
 - D. Delete everything in the queue and resend the print jobs
- Quick Answer: 31
- A7. A system administrator has connected an external USB drive to a computer to transfer some documents. When booting the computer, the system tries to boot from the external drive and gives an error message. Which of the following would be the best way to prevent the USB drive from booting?
- A. Modify the BIOS to boot from the internal hard drive
 - B. Modify the boot order in Windows Disk Management
 - C. Rebuild the MBR on the external hard drive
 - D. Disable the external drive in Device Manager
- Quick Answer: 31
- A8. A user's print jobs to a new multifunction printer produce pages of garbled text, but jobs from other users are printing normally. Which of the following would be the most likely reason for this issue?
- A. Printer driver specifies secured prints
 - B. Faulty network cable
 - C. Print driver is configured for PCL
 - D. Application is not authorized to print
- The Details: 42
- The Details: 43

- A9.** A network connection in a conference room was installed years ago, and there's no documentation for the cable run. Connecting a device to the cable results in a successful Ethernet connection, so the other end of the cable should terminate somewhere in the wiring closet. Which of these tools would be the best choice to find the other end of the network connection?
- A.** Cable tester
 - B.** Tone generator
 - C.** Multimeter
 - D.** Crimper
- A10.** A network administrator has received a ticket complaining of port flapping on an Ethernet switch. Which of the following would be the most likely reason for this issue?
- A.** Firewall rule is blocking traffic
 - B.** Faulty crimp on an Ethernet connector
 - C.** Excessive jitter measurements
 - D.** Duplex mismatch
- A11.** A user has powered on their computer and received the message "Operating system not found." A check of the system shows the SATA drive cables are properly connected. Which of the following would be the next best troubleshooting step?
- A.** Boot to Safe Mode
 - B.** Replace the boot drive
 - C.** Restore from a known good backup
 - D.** Check for removable drives

Quick
Answer: **31**

The Details: **44**

Quick
Answer: **31**

The Details: **45**

Quick
Answer: **31**

The Details: **46**

- A12.** A user is having an issue with a smartphone battery bulging and physically pushing the screen away from the phone. The rest of the phone appears to be operating normally. Which of the following should be the best next troubleshooting step?
- A.** Power off the phone and contact support
 - B.** Upgrade to the latest OS version
 - C.** Replace the screen
 - D.** Perform a factory reset
- Quick
Answer: **31**
- A13.** A client's laptop appears to boot normally, but nothing ever appears on the LCD. After closer inspection, you notice the output is visible but it's too faint to clearly see anything. What is the most likely cause of this issue?
- A.** Video card
 - B.** Inverter
 - C.** Video driver
 - D.** Power adapter
- Quick
Answer: **31**
- A14.** A graphics designer is experiencing increasing delays when accessing files on her hard drive. The user maintains a daily backup of all data on the drive. Which of these would be the best next troubleshooting step for this issue?
- A.** Reinstall Windows
 - B.** Perform a hard drive diagnostic
 - C.** Restore from the daily backup
 - D.** Boot to Safe Mode
- The Details: **49**
- A15.** Which of the following would be most likely found on an optical disc?
- A.** Document archive
 - B.** Operating system boot files
 - C.** RAID parity files
 - D.** BIOS configurations
- Quick
Answer: **31**
- The Details: **50**

- A16.** When a user starts their computer, the screen remains blank and the computer beeps twice. Which of these would be the most likely cause of this issue?
- A. The boot device is not connected
 - B. The memory is faulty
 - C. The operating system has become corrupted
 - D. The PC is infected with malware
- A17.** A firewall is configured to block email transfers from a remote server. Which of the following ports is the firewall blocking?
- A. 443
 - B. 22
 - C. 23
 - D. 25
- A18.** A technician is connecting a laptop to an LCD projector in a conference room. The display on the laptop works properly, but the projector image is constantly flickering and pixelating. The technician has modified the resolution and refresh rates, but the projector image continues to flicker. Which of the following would be the best next troubleshooting step?
- A. Replace the video cable
 - B. Disable the laptop display
 - C. Replace the projector bulb
 - D. Power cycle the projector
- A19.** The stylus on an Android tablet will no longer interact with the user interface. Which of these would be the most likely cause of this issue?
- A. Digitizer
 - B. Backlight
 - C. Contrast
 - D. Inverter

A20. A user in the accounting department needs to print a form on the laser printer on both sides of the page. Which of the following options should be configured in the accounting software?

- A.** Tray settings
- B.** Orientation
- C.** Duplex
- D.** Resolution

Quick
Answer: **31**

The Details: **55**

A21. A user needs to connect their laptop to the wired Ethernet network, but the laptop does not have an integrated Ethernet interface. Which of the following would allow the laptop to connect to an Ethernet network? (Pick TWO)

- A.** Docking station
- B.** VGA interface
- C.** USB to Ethernet adapter
- D.** DisplayPort to HDMI cable
- E.** DVI to HDMI adapter
- F.** Bluetooth

Quick
Answer: **31**

The Details: **56**

A22. A server administrator has received an alert showing one drive in a RAID 1 array has failed. Which of the following would be the best way to resolve this alert?

- A.** Replace the bad drive and resync the array
- B.** Replace all drives in the array and resync the array
- C.** Replace the bad drive and restore from backup
- D.** Convert the array to RAID 0 and replace the drive
- E.** Replace all drives in the array and restore from backup

Quick
Answer: **31**

The Details: **57**

A23. A system administrator is building a server for a data center in another country. The server will manage a print queue and provide a local storage partition for temporary file transfers. Which of the following power supply specifications will be the most important for this server?

- A.** Voltage input options
- B.** Number of PCIe connectors
- C.** Modular cabling
- D.** Fan noise rating

Quick
Answer: **31**

The Details: **58**

A24. Which of the following ports are used for file transfers?
(Select TWO)

- A.** 21
- B.** 110
- C.** 25
- D.** 23
- E.** 20
- F.** 53

Quick
Answer: **31**

The Details: **59**

A25. Which of these technologies do not require a backlight to provide a viewable display?

- A.** LCD
- B.** IPS
- C.** OLED
- D.** Mini LED

Quick
Answer: **31**

The Details: **60**

A26. A system administrator has tripped over an Ethernet cable and the cable's RJ45 connector has broken. Which of the following should be used to resolve this issue?

- A.** Punch-down tool
- B.** Tone generator and probe
- C.** Cable tester
- D.** Crimper

Quick
Answer: **31**

The Details: **61**

- A27.** A system administrator hears an audible alarm when they walk in the door of the data center. Which of the following would be the most likely reason for this alarm?
- A.** An operating system has failed to boot
 - B.** A RAID array has failed
 - C.** A backup drive is full
 - D.** A network uplink is disconnected
- Quick
Answer: **31**
- A28.** A newly installed multifunction device provides an option to "scan to SMB." Which of the following would best describe this feature?
- A.** Print jobs can be sent from mobile devices
 - B.** All scans are checked for malware
 - C.** Files are stored on a Microsoft share
 - D.** Documents are scanned from the cloud
- The Details: **62**
- A29.** A network administrator is powering their access points using voltage provided through the existing Ethernet cables. Which of the following technologies is associated with this power source?
- A.** UPS
 - B.** PoE switch
 - C.** Router
 - D.** Surge protector
- Quick
Answer: **31**
- A30.** In which of the following would a Lightning cable most likely be used?
- A.** Connect a server to a display monitor
 - B.** Increase the available memory of a device
 - C.** Remotely control a mobile device
 - D.** Charge a mobile device
- The Details: **64**
- Quick
Answer: **31**
- The Details: **65**

- A31.** A network administrator would like to enable DHCP on a laptop, but they would like the same IP address to be assigned to the laptop each time it starts. Which of the following would provide this functionality?
- A. Create an IP reservation on the DHCP server
 - B. Administratively configure the laptop's MAC address
 - C. Use APIPA addressing
 - D. Assign the laptop to a static IP VLAN
- A32.** A user is complaining about slow network performance from their workstation. A network technician checks the data closet and finds the wires are not properly seated in the 110 block. Which of the following should the technician use to correct this issue?
- A. Crimper
 - B. Multimeter
 - C. Punch-down tool
 - D. Cable tester
- A33.** A user has just connected to a new wireless network, but they cannot view any Internet web sites. Their network configuration shows the IP address as 169.254.228.109, the subnet mask is 255.255.0.0, and they have not been assigned a default gateway. Which of these is the most likely cause of this issue?
- A. The subnet mask is not correct
 - B. The Internet provider is experiencing a temporary outage
 - C. The DHCP server is down
 - D. The wireless adapter is not working properly

Quick
Answer: **31**

The Details: **66**

Quick
Answer: **31**

The Details: **67**

Quick
Answer: **31**

The Details: **68**

- A34.** A help desk technician needs to use different Windows versions to study for an industry certification exam. The technician currently uses a Windows desktop computer with 4 GB of RAM and a 750 GB free on the hard drive. Which of the following would be the best way to perform this task? (Choose TWO)
- A.** Install a second monitor
 - B.** Install an additional hard drive
 - C.** Create a Windows Recovery Environment boot drive
 - D.** Upgrade the system RAM
 - E.** Install Windows guest VMs
- Quick Answer: **31** The Details: **69**
- A35.** While configuring a new workstation in the lab, one of the engineers recommends using 255.255.255.0. What part of the configuration is this associated with?
- A.** Default gateway
 - B.** Subnet mask
 - C.** DNS server
 - D.** IP address
- Quick Answer: **31** The Details: **70**
- A36.** Which of the following best describes a Bluetooth network?
- A.** PAN
 - B.** WAN
 - C.** LAN
 - D.** MAN
- Quick Answer: **31** The Details: **71**
- A37.** During the onboarding process, an employee's phone has been added to the corporate MDM. Which of the following would best describe this deployment strategy?
- A.** COPE
 - B.** SaaS
 - C.** BYOD
 - D.** SMB
- Quick Answer: **31** The Details: **72**

A38. A user's smartphone shows a black screen and does not respond to any screen taps or button presses. A check of the SIM card shows a red label but no physical damage. Which of the following is the most likely reason for these issues?

- A.** Overheating
- B.** Digitizer failure
- C.** Liquid damage
- D.** Invalid SIM card

Quick
Answer: **31**

The Details: **73**

A39. An administrator needs to obtain the MAC address of a print server. Which of the following would be the best source of this information?

- A.** Router
- B.** NIC
- C.** Firewall
- D.** ONT

Quick
Answer: **31**

The Details: **74**

A40. A user would like to access email from their Windows 11 laptop using a smartphone's Internet connection. Which of these technologies needs to be enabled on the laptop?

- A.** 5G
- B.** 802.11
- C.** NFC
- D.** GPS

Quick
Answer: **31**

The Details: **75**

A41. A system administrator needs to upgrade a laptop from a hard drive to an SSD. Which of the following would provide the most efficient method of upgrading this system?

- A.** Create an image of the hard drive and restore to the SSD
- B.** Install a new Windows license and application files on the SSD
- C.** Backup all user documents and copy them to another computer
- D.** Compress the home directory and upload it to cloud storage

Quick
Answer: 31

The Details: 76

A42. A new employee has been assigned a corporate smartphone, but the camera and the installation of third-party apps has been disabled. Which of the following is the most likely reason for these issues?

- A.** The smartphone is out of storage space
- B.** The smartphone OS needs to be upgraded
- C.** An MDM has disabled the features
- D.** The smartphone hardware is faulty

Quick
Answer: 31

The Details: 77

A43. A system administrator is using a maintenance kit on a network-connected laser printer. Which of the following should be the last step when performing this maintenance?

- A.** Examine the feed rollers
- B.** Wait until the fuser unit cools down and replace it
- C.** Reset the page counter
- D.** Replace the power cord

Quick
Answer: 31

The Details: 78

A44. An application developer needs to test an application across all of the operating systems used by the company. Each operating system will be tested individually in a lab environment. The company would like to minimize any additional hardware purchases for this project. Which of the following would be the best way to test this application?

- A.** Purchase a system configured just above the hardware requirements for the highest-end operating system. Create separate VMs for each operating system.
- B.** Purchase individual test computers which match the hardware requirements for each OS. Install different operating systems on each test computer.
- C.** Designate existing user workstations to be used as testing systems. Run all application tests during non-working hours.
- D.** Purchase a system which matches the minimum hardware requirements for the highest-end operating system. Create a system image for each operating system and reimagine the computer between tests.

Quick

Answer: 31

The Details: 79

A45. A graphics editor is purchasing a new monitor which will best match the color output of their laser printer. Which of the following specifications would best meet this requirement?

- A.** Pixel density
- B.** Screen resolution
- C.** Color gamut
- D.** Refresh rate

Quick

Answer: 31

The Details: 81

- A46.** A user in the manufacturing department reports every page printed from the central networked laser printer is jamming inside of the printer. Which of the following is the most likely cause of this issue?
- A. The printer driver is outdated
 - B. The printer language is not properly configured
 - C. The paper is an incorrect weight
 - D. The toner is low
- A47.** Which mobile device connection is commonly used for making payments at a store checkout?
- A. NFC
 - B. Infrared
 - C. Cellular
 - D. Bluetooth
- A48.** A company hosts a cloud-based application which includes redundant servers located in different data centers around the world. Which of the following cloud computing characteristics would best describe this application design?
- A. Elasticity
 - B. Availability
 - C. Non-metered
 - D. VDI
- A49.** An administrator is installing a new database server. Which of the following technologies would maximize the data bandwidth when accessing memory modules?
- A. Multiple channels
 - B. Error correcting code
 - C. SDRAM
 - D. NVMe storage
 - E. Parity storage

Quick
Answer: 31

The Details: 82

Quick
Answer: 31

The Details: 83

Quick
Answer: 31

The Details: 84

Quick
Answer: 31

The Details: 85

- A50.** A manager's computer is able to connect to Internet sites while in conference rooms or in the building courtyard. When the laptop is brought back to the manager's desk and placed into the docking station, the Internet access is unavailable but all other features are working. Which of the following should be the first troubleshooting task for this issue?
- A. Replace the docking station power supply
 - B. Upgrade the laptop BIOS
 - C. Replace the docking station
 - D. Check the docking station network cable
- Quick
Answer: **31**
- The Details: **86**
- A51.** The manager of the Accounting department would like to add another phone number to their iPhone to use while working at a regional site in another country. Which of the following would provide this functionality?
- A. MDM
 - B. eSIM
 - C. Bluetooth
 - D. Tether
- Quick
Answer: **31**
- The Details: **87**
- A52.** Which of the following would be most associated with an IoT device?
- A. Multithreading
 - B. ARM
 - C. Virtualization support
 - D. ECC RAM
- Quick
Answer: **31**
- The Details: **88**
- A53.** A technician is working with a desktop computer where the display shows a completely black screen. Powering the computer and monitor off and back on does not correct the issue. Which of the following would be the most likely reason for this issue?
- A. The computer resolution is different than the monitor
 - B. The monitor input is incorrect
 - C. Image scaling is disabled
 - D. The monitor has a dead pixel
- Quick
Answer: **31**
- The Details: **89**

A54. An engineer has manually configured IP addresses for a small office which uses a cable modem for Internet connectivity. However, none of the devices configured with a manual IP address are able to browse Internet websites. All devices are connected to the cable modem with twisted-pair Ethernet cables. This is the configuration of one device:

IP address: 192.168.1.7
Subnet mask: 255.255.255.0
Default gateway: 192.168.1.1
DNS: 192.168.1.7

The engineer can successfully ping the local IP address and the default gateway address. Which of the following should be the next troubleshooting step?

- A.** Check for duplicate IP addresses Quick Answer: 31
- B.** Replace the Ethernet cable The Details: 90
- C.** Check the DNS configuration
- D.** Replace the cable modem

A55. A user in a remote office is connecting a device using an F-connector. Which of the following would be most likely associated with this connection?

- A.** Cable modem Quick Answer: 31
- B.** Switch The Details: 91
- C.** Punchdown block
- D.** DSL modem

A56. A user in the accounting department has turned on their computer and received the message “Date and Time not set.” Which of the following would be the most likely reason for this message?

- A.** The motherboard battery has discharged Quick Answer: 31
- B.** Windows update has rebooted the computer The Details: 92
- C.** Daylight Saving Time occurred during the weekend
- D.** The BIOS was just upgraded

A57. A user in the accounting department is connecting to their monitor using HDMI. The video appears normal, but the user does not hear any audio through the monitor's speakers. Which of the following would be the two most likely reasons for this audio issue? (Select TWO)

- A.** Video output does not match the native resolution
- B.** Audio controls are muted
- C.** Not enough bandwidth for audio
- D.** Internet connectivity is unavailable
- E.** OS is not configured for HDMI audio output
- F.** Display has a dead pixel

Quick
Answer: **31**

The Details: **93**

A58. A system administrator has created a cloud configuration which automatically monitors utilization for usage-based billing. Which of the following describes this cloud computing characteristic?

- A.** Metered
- B.** File synchronization
- C.** Elasticity
- D.** Availability

Quick
Answer: **31**

The Details: **95**

A59. A group of wireless laptops in a conference room are reporting intermittent connectivity issues. The wired computers in the room are not experiencing any network problems. A check of the laptops shows the IP addresses and configurations appear to be correct. Which of the following would be the best next troubleshooting step?

- A.** Verify the wireless signal strength
- B.** Check the ARP table on the default gateway
- C.** Confirm the operation of the DHCP server
- D.** Perform a wire map on the network drops

Quick
Answer: **31**

The Details: **96**

A60. A server administrator has been asked to troubleshoot a system which has been slowing down over time. While examining the computer, the administrator can hear a series of clicks from the inside of the case. Which of the following should be the first step to address this issue?

- A. Replace the motherboard
- B. Power the system off and back on
- C. Replace the hard drive
- D. Perform a full backup of the server
- E. Replace the power supply

Quick
Answer: 31

The Details: 97

A61. When pressing the power button on a desktop computer, the power indicator lights up but the computer does not display any message on the screen. The voltage at the wall outlet has been checked and it appears to be normal. The motherboard power connector voltage was checked, and the 12 volt pin was showing 6 volts. What is the most likely cause of this issue?

- A. The components using 12 volt power are faulty
- B. The power supply is faulty
- C. The wall outlet voltage does not match the power supply
- D. The motherboard is faulty

Quick
Answer: 31

The Details: 98

A62. A manager would like print jobs sent to a network laser printer to use paper from the third tray. However, no tray options are listed when submitting the print job. Which of the following would resolve this issue?

- A. Restart the printer
- B. Update the printer driver
- C. Stop and restart the print server
- D. Change the printer permissions

Quick
Answer: 31

The Details: 99

- A63.** A remote user is visiting their corporate office. They have connected their laptop to the wireless network, but the corporate Internet access is performing much slower than their remote site network. Which of the following would be the most likely reason for this issue?
- A. The default gateway is incorrect
 - B. The laptop has been assigned an APIPA address
 - C. The user does not have permission to use the wireless network
 - D. There is interference with the wireless signal
- A64.** Which of the following would best describe the use of a port replicator?
- A. Increase the number of available USB interfaces
 - B. Extend the length of an HDMI cable
 - C. Send a copy of network frames to a protocol analyzer
 - D. Maintain a redundant array of storage drives
- A65.** A user is reporting a shared laser printer in the marketing department is not printing from one particular application. The front panel of the printer shows the printer is online and ready to receive print jobs. Other users in the department are able to successfully print to the printer. Which of the following would be the best next troubleshooting step?
- A. Power cycle the printer
 - B. Restart the print spooler
 - C. Perform a test print from the printer console
 - D. Verify the network printer name in the application

Quick
Answer: 31

The Details: 100

Quick
Answer: 31

The Details: 101

Quick
Answer: 31

The Details: 102

A66. A network administrator is connecting four company locations in different countries. Which of the following would best describe this configuration?

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

Quick
Answer: **31**

The Details: **103**

A67. A system administrator has received a report of customers receiving email messages from the company, but upon further analysis the administrator finds the messages were not actually sent by the corporation. Which of the following should be implemented to prevent these spoofed email messages?

- A.** Add multi-factor authentication to all email logins
- B.** Change the passwords on all email accounts
- C.** Configure an SPF record in the DNS
- D.** Modify the firewall rules to prevent outgoing emails

Quick
Answer: **31**

The Details: **104**

A68. A system administrator has configured a VM for dual processors, 16 GB of RAM, and 120 GB of disk space. Which of the following is required to start this VM?

- A.** Shared network address
- B.** Hypervisor
- C.** Virtual switch
- D.** Video display

Quick
Answer: **31**

The Details: **105**

- A69.** A site manager has noticed her smartphone has a short battery life when used at work, and the battery life is normal when working from home. The work location has limited mobile service reception, but most office services are provided over the local 802.11 Wi-Fi network. The site manager does not enable Bluetooth on her smartphone. Which of the following would be the best way to extend the battery life of her mobile device?
- A. Disable 802.11 Wi-Fi
 - B. Disable the cellular radio at work
 - C. Replace the battery
 - D. Enable Bluetooth on the mobile device
- A70.** A desktop computer has just abruptly shut off, and pressing the power button doesn't restart the system. There are no fans spinning, no lights are on, and no messages appear on the display. Which of these would be the most likely cause of this issue?
- A. The BIOS is configured with a startup password
 - B. The LCD display backlight has failed
 - C. The power supply is faulty
 - D. The master boot record is corrupted
 - E. The boot sector is missing
- A71.** What kind of device is commonly used to filter traffic based on a predefined set of rules?
- A. PoE switch
 - B. ONT
 - C. DSL modem
 - D. Firewall
- A72.** Which of these connection types are commonly delivered using coax to provide Internet data, voice, and video over the same wire?
- A. DSL
 - B. Cable broadband
 - C. ONT
 - D. PoE

Quick

Answer: 31

The Details: 106

Quick

Answer: 31

The Details: 107

Quick

Answer: 31

The Details: 108

Quick

Answer: 31

The Details: 109

A73. A manager's smartphone will normally update applications automatically, but the update app doesn't show any new upgrades in over two weeks. Which of the following would be the most likely reason for this issue?

- A. The digitizer is damaged
- B. The battery is swollen
- C. Storage space is low
- D. Bluetooth is disabled

Quick
Answer: 31

The Details: 110

A74. A user is pairing a Bluetooth headset to their smartphone. What type of security is used during the pairing process to authorize this connection?

- A. 802.1X
- B. Client certificate
- C. Pre-shared key
- D. PIN
- E. Username and password

Quick
Answer: 31

The Details: 111

A75. A company is deploying cloud-hosted virtual desktops for training room classes. The VMs have already been configured in the cloud. Which of the following is required to access these VMs using thin clients in the training room?

- A. High-end video cards
- B. Separate Internet connection
- C. Mouse, keyboard, and monitor
- D. Category 6A cabling

Quick
Answer: 31

The Details: 112

- A76.** A technician has connected a laptop to an LCD. The LCD is displaying the correct information, but all of the content appears to be fuzzy and difficult to read. Which of the following is the most likely reason for this issue?
- A. The LCD display is faulty
 - B. The laptop display adapter is incompatible with the LCD display
 - C. The laptop resolution is incorrect
 - D. The LCD display cable is faulty
- A77.** An engineering firm is upgrading their storage array to include additional drive space for documents and designs. The primary goal is to provide high performance and uptime, even if two drives were to fail. Which of the following would be the best choice for this firm?
- A. RAID 1
 - B. RAID 5
 - C. RAID 0
 - D. RAID 10
- A78.** The installation parameters for an access point specify a configuration option for 40 MHz. Which of the following best describes this configuration option?
- A. Bandwidth
 - B. Channel
 - C. Category
 - D. Frequency
 - E. 802.11 standard

Quick
Answer: 31

The Details: 113

Quick
Answer: 31

The Details: 114

Quick
Answer: 31

The Details: 115

- A79.** A company needs to purchase a new printer for an open work area. The primary requirement of this printer is to be as quiet as possible. Which of these printer types would be the best fit for this requirement?
- A.** Dot-matrix
 - B.** Inkjet
 - C.** Laser
 - D.** Thermal
- A80.** A user in the marketing department would like to use a stylus to provide input through an external digitizer. Which of the following would be the best choice for this requirement?
- A.** LCD touchscreen
 - B.** Port replicator
 - C.** Wireless mouse
 - D.** Drawing pad
- A81.** A company has designed a platform to scale up when the application use increases during the day, and scale back down at night. Which of the following best describes this characteristic of cloud computing?
- A.** Resource pooling
 - B.** Measured service
 - C.** Hybrid
 - D.** Elasticity
- A82.** A user's tablet has stopped responding to any type of finger input on the screen. The clock and other tablet functions appear to be working. Which of the following would be the best way to correct this issue?
- A.** Replace the screen
 - B.** Reset the wireless network
 - C.** Connect to a power source
 - D.** Restart the tablet

Quick
Answer: **31**

The Details: **116**

Quick
Answer: **31**

The Details: **117**

Quick
Answer: **31**

The Details: **118**

Quick
Answer: **31**

The Details: **119**

A83. A system administrator needs a secure method of storing encryption keys. Which of the following would be the best choice for this requirement?

- A.** BIOS
- B.** Secure Boot
- C.** NTFS
- D.** HSM

Quick
Answer: **31**

The Details: **120**

A84. A server administrator is upgrading the memory in a web server from 16 GB of non-ECC RAM to 64 GB of ECC RAM. After starting the system with the new memory, the computer beeps and nothing is displayed on the screen. Changing the number and location of new RAM modules results in the same beeping sounds and blank screen. After replacing the original 16 GB modules, the system starts normally. Which of the following is the most likely reason for this issue?

- A.** The new memory is not compatible with the motherboard
- B.** The new memory is faulty
- C.** The BIOS needs to be updated
- D.** The system is overheating during the startup process

Quick
Answer: **31**

The Details: **121**

A85. A workstation has been assigned an APIPA address. Which of the following would be the most likely reason for this assignment?

- A.** The workstation is not connected to the wireless network
- B.** The DNS server is misconfigured
- C.** The network is using public Internet addresses
- D.** The DHCP server is down

Quick
Answer: **31**

The Details: **122**

A86. Which of the following can be used to forward traffic based on a destination MAC address?

- A. Unmanaged switch
- B. PoE injector
- C. Router
- D. Firewall

Quick
Answer: 31

The Details: 123

A87. A system administrator made some BIOS changes to a desktop computer running Windows 11, and now this message appears when starting the computer:

“This drive can only boot in UEFI mode.”

Which of the following would be the BEST next troubleshooting step?

- A. Modify the boot drive sequence
- B. Enable Secure Boot
- C. Remove the BIOS password
- D. Boot the system with the Windows setup media

Quick
Answer: 31

The Details: 124

A88. A new employee has been provided a corporate smartphone. After the initial login, all of the corporate email server configurations have been automatically installed and updated in real-time. Which of the following is providing this functionality?

Quick
Answer: 31

- A. ACL
- B. SSID
- C. SPICE
- D. MDM

The Details: 125

A89. A technician is installing a DSL modem in a data center.

Which of the following connectors would be used to connect the DSL modem to the Internet provider line?

- A.** DB-9
- B.** RJ11
- C.** Molex
- D.** F-connector

Quick
Answer: **31**

The Details: **126**

A90. Which of the following would be the BEST choice for

capturing an image from a printed page and saving it on a computer?

- A.** Print server
- B.** Optical drive
- C.** Flatbed scanner
- D.** Webcam

Quick
Answer: **31**

The Details: **127**

Practice Exam A

Multiple Choice Quick Answers

- | | | |
|--------------|--------------|--------|
| A6. B | A36. A | A66. D |
| A7. A | A37. C | A67. C |
| A8. C | A38. C | A68. B |
| A9. B | A39. B | A69. B |
| A10. B | A40. B | A70. C |
| A11. D | A41. A | A71. D |
| A12. A | A42. C | A72. B |
| A13. B | A43. C | A73. C |
| A14. B | A44. A | A74. D |
| A15. A | A45. C | A75. C |
| A16. B | A46. C | A76. C |
| A17. D | A47. A | A77. D |
| A18. A | A48. B | A78. A |
| A19. A | A49. A | A79. D |
| A20. C | A50. D | A80. D |
| A21. A and C | A51. B | A81. D |
| A22. A | A52. B | A82. D |
| A23. A | A53. B | A83. D |
| A24. A and E | A54. C | A84. A |
| A25. C | A55. A | A85. D |
| A26. D | A56. A | A86. A |
| A27. B | A57. B and E | A87. B |
| A28. C | A58. A | A88. D |
| A29. B | A59. A | A89. B |
| A30. D | A60. D | A90. C |
| A31. A | A61. B | |
| A32. C | A62. B | |
| A33. C | A63. D | |
| A34. D and E | A64. A | |
| A35. B | A65. D | |

Practice Exam A

Performance-Based Answers

A1. Match the connector name and most common use to the picture:



Lightning

Charge an
older iPad

Lightning connectors are proprietary to Apple devices. These connectors provide an 8-pin digital signal between a mobile device and a computer.



RJ45

Connect to
wired
Ethernet

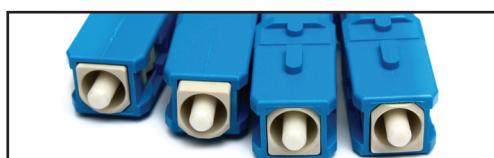
RJ45 connectors are 8P8C (Eight position, eight conductor) interfaces, and are commonly used for copper/wired Ethernet network connections.



HDMI

Connect to
a monitor

HDMI is a common video connection type and is used across a wide variety of computing devices, LCD projectors, and display monitors.



SC

Run fiber
to a building

Fiber connections may use SC (Subscriber Connector) connections to attach the fiber run to a network device.



DB-9

Use a console
interface

DB-9 connectors can be used to communicate with modems, firewalls, servers, console interfaces, and other serial devices.



USB-C

Use an
external SSD

USB-C connections are commonly used to connect and power external devices. The USB-C connector is reversible, so it can be inserted into an interface without maintaining a particular orientation.

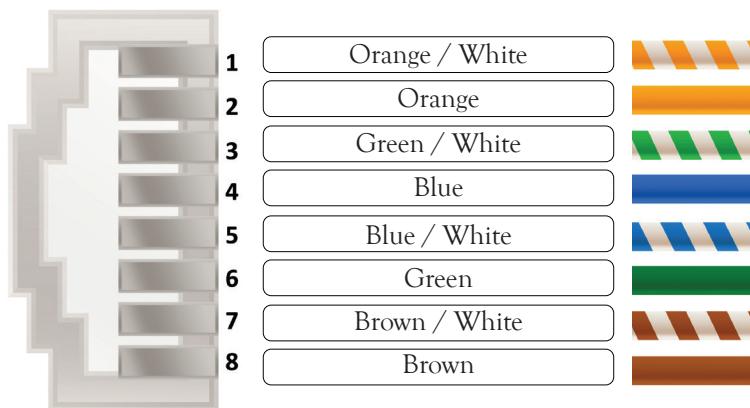


More information:

220-1201, Objective 3.2 - Copper Connectors

<https://professormesser.link/1201030208>

- A2.** A technician is crimping an RJ45 connector using the T568B color standard. Which colors should the technician use for each pin?:



Most organizations will standardize on either the T568A color scheme or the T568B color scheme. It's important to maintain this standard cabling and color scheme on both sides of an Ethernet connection.



More information:

220-1201 - Section 3.2 - 568A and 568B Colors

<https://professormesser.link/1201030201>

A3. Match the port number to the protocol. Not all port numbers will be used.

tcp/443 HTTPS - Hypertext Transfer Protocol Secure

tcp/389 LDAP - Lightweight Directory Access Protocol

udp/53 DNS - Domain Name System

tcp/143 IMAP - Internet Message Access Protocol

tcp/445 SMB - Server Message Block

tcp/3389 RDP - Remote Desktop Protocol

tcp/22 SSH - Secure Shell

Port numbers can be challenging to memorize, so you may want to consider making your own lab by adding some firewall rules in Windows Firewall or any similar third-party firewall. Once you create firewall rules and work with some of the port numbers, you'll find they're much easier to remember.

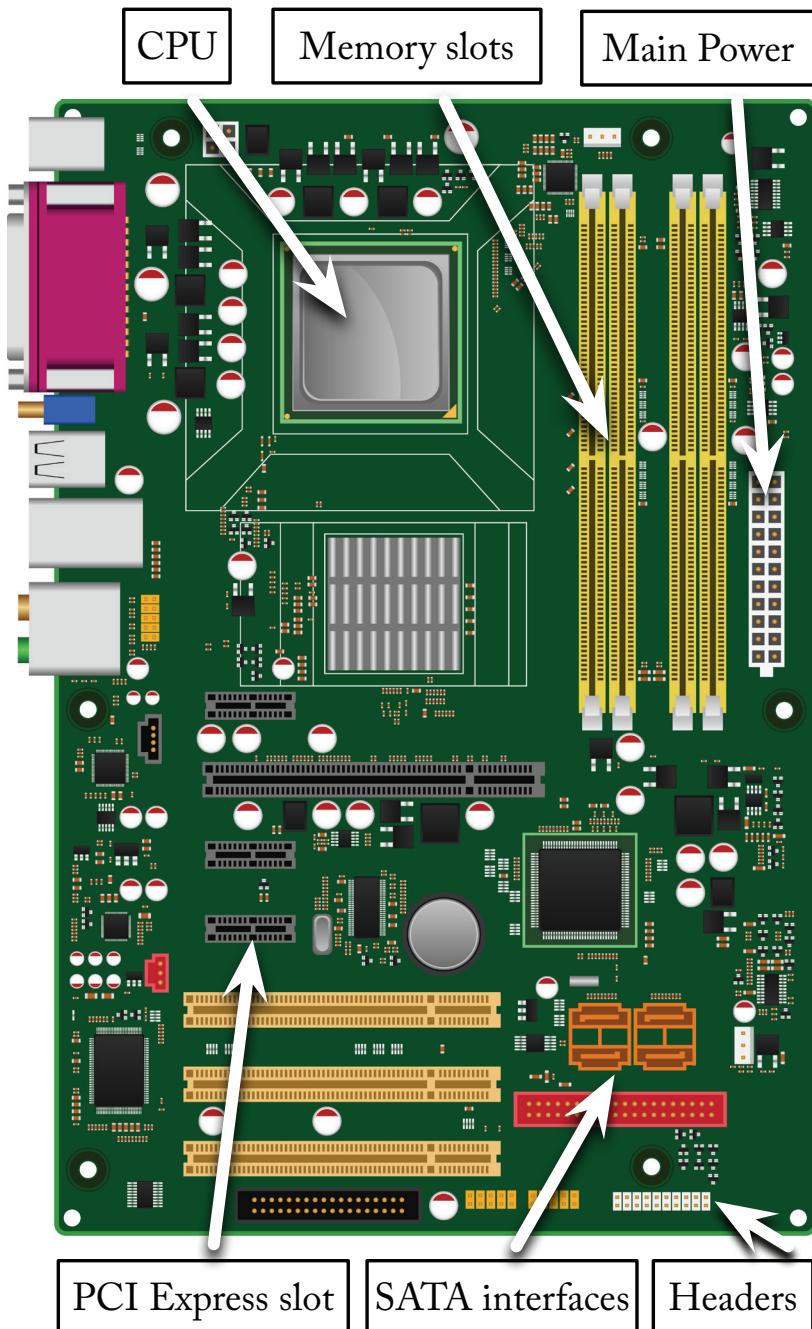


More information:

220-1201, Objective 2.1 - Common Ports

<https://professormesser.link/1201020102>

A4. Identify the components on this motherboard:



More information:

220-1201, Objective 3.5 - Motherboard Connections
<https://professormesser.link/1201030503>

A5. Match the symptoms to the most likely resolution:



The laptop is on, but a connected external monitor is blank



Monitor input is incorrect

Many monitors include multiple input options, allowing connections via HDMI, DisplayPort, VGA, and other video input options. If the laptop is connected to the HDMI interface of the display and the display is configured to accept signals on the DisplayPort interface, the screen will be blank until the input selection is changed on the display.



The LCD display output is fuzzy and isn't as crisp as other displays



Non-native resolution is configured

LCD displays are manufactured with a set number of horizontal and vertical pixels, and we commonly refer to this as the native resolution. If the computer is configured to output a resolution different than the native resolution, the output often appears fuzzy and sometimes can be difficult to read. Configuring the computer to output the native resolution will resolve this issue.



The colors on the screen look different than the actual printed colors



Disable time-of-day color shifting

Many operating systems have features to change the color temperature of the output depending on the time of day. During nighttime hours, the amount of blue light is diminished and will change the way colors are represented on the display screen.



The image on the screen is visible after the app is closed



Replace the display

If an image is displayed on a monitor for an extended period of time, there's a chance the image could "burn-in" to the monitor. When the original image is removed from the screen, this burned-in image will continue to be displayed as a faded version of the original. Unfortunately, extensive burn-in cannot be reversed and the display screen would need to be replaced.



The icons on the screen are very small



Increase the scaling percentage

On our 4K and larger resolution displays, it's common for the text and icons to appear very small at the default scaling settings. Most operating systems include the option to increase the size of the visible operating system objects. On these larger resolution monitors, it's common to increase the scaling percentage by 200%, 300%, or even higher.



An LCD monitor occasionally will turn completely black for three seconds



Replace the video data cable

The digital communication used for many modern video connections requires a reliable connection between the computer and the monitor. If the signal is not received properly by the monitor, the output will appear "blocky" or the screen will turn completely black. In many of these cases, the issue is related to the cable or connectors and can be easily resolved by replacing the cable.



An LCD projector turns off
after less than 5 minutes of use

F

Clean dust from the air filters

The bulb in an LCD projector is very bright and creates a great deal of heat during operation. To help cool the projector, a fan pulls cool air through the projector to keep temperatures low. If the air filter is clogged or the fan is not running, the projector will quickly overheat and will automatically turn itself off to avoid any permanent damage.



More information:

220-1201, Objective 5.3 - Troubleshooting Display Issues

<https://professormesser.link/1201050301>

Practice Exam A

Multiple Choice Detailed Answers

A6. The printer in the accounting department has stopped all printing processes. The print queue shows seven jobs in the queue waiting to be printed. Which of the following would be the best next troubleshooting step?

- A. Send a test job to the printer and move it to the top of the queue
 - B. Restart the printer's spooler
 - C. Install an updated version of the printer driver
 - D. Delete everything in the queue and resend the print jobs
-

The Answer: B. Restart the printer's spooler

The print spooler is the software responsible for storing print jobs and sending them to the printer. If the printer spooler has failed or has stopped, then none of the print jobs will be sent to the printer.

The incorrect answers:

A. Send a test job to the printer and move it to the top of the queue
Since the print spooler is the issue, it won't matter where a print job might be in the queue. A test print job will sit at the top of the queue just like any other print job.

C. Install an updated version of the printer driver

The printer driver on a client workstation is responsible for formatting the print job in a way the printer can properly interpret during the printing process. Changing the print driver won't fix problems with the print spooler.

D. Delete everything in the queue and resend the print jobs

If the spooler is having problems, then deleting the print jobs will only require users to resend the print requests, which will then sit in the queue and not print.



More information:

220-1201, Objective 5.6 - Troubleshooting Printers

<https://professormesser.link/1201050601>

A7. A system administrator has connected an external USB drive to a computer to transfer some documents. When booting the computer, the system tries to boot from the external drive and gives an error message. Which of the following would be the best way to prevent the USB drive from booting?

- A.** Modify the BIOS to boot from the internal hard drive
 - B.** Modify the boot order in Windows Disk Management
 - C.** Rebuild the MBR on the external hard drive
 - D.** Disable the external drive in Device Manager
-

The Answer: **A.** Modify the BIOS to boot from the internal hard drive
The boot order is managed in the system BIOS, and one way to avoid the computer from attempting to boot from an external storage device is to move the internal drive to have a higher boot priority.

The incorrect answers:

B. Modify the boot order in Windows Disk Management

Windows Disk Management is not used to configure the boot order of the computer. By the time Windows has loaded, the boot order has already been determined. The boot order is configured in the system BIOS.

C. Rebuild the MBR on the external hard drive

Rebuilding the MBR (Master Boot Record) of the external hard drive will not prevent the computer from attempting to boot to the drive.

Rebuilding the MBR would only be necessary if the boot record was erased or damaged.

D. Disable the external drive in Device Manager

Since Windows Device Manager is only active after the system boots, disabling the external drive would not prevent the boot process. Disabling the drive in Device Manager would only prevent Windows from accessing the drive once the system was booted.



More information:

220-1201, Objective 5.2 - Troubleshooting Storage Devices

<https://professormesser.link/1201050201>

- A8.** A user's print jobs to a new multifunction printer produce pages of garbled text, but jobs from other users are printing normally. Which of the following would be the most likely reason for this issue?
- A.** Printer driver specifies secured prints
 - B.** Faulty network cable
 - C.** Print driver is configured for PCL
 - D.** Application is not authorized to print
-

The Answer: **C.** Print driver is configured for PCL

The page description language configured in a printer driver must match the language on the printer. If a device prints to a PostScript printer using Hewlett-Packard's PCL (Printer Command Language), the output will appear garbled and unreadable.

The incorrect answers:

A. Printer driver specifies secured prints

Secured printing allows the user to associate their print job with a PIN (Personal Identification Number), and the job will not print until the PIN is entered at the printer console. This process does not cause the output to appear garbled or corrupted.

B. Faulty network cable

A faulty cable would cause the printer to receive data slowly or not at all. The output of the printer would not be affected by a faulty Ethernet cable.

D. Application is not authorized to print

A print authorization is commonly determined by the user's rights and permissions and is not based on the application. If a user did not have rights to print, then no print job would be queued and no output would be created.



More information:

220-1201, Objective 3.7 - Multifunction Devices

<https://professormesser.link/1201030701>

- A9.** A network connection in a conference room was installed years ago, and there's no documentation for the cable run. Connecting a device to the cable results in a successful Ethernet connection, so the other end of the cable should terminate somewhere in the wiring closet. Which of these tools would be the best choice to find the other end of the network connection?
- A.** Cable tester
 - B.** Tone generator
 - C.** Multimeter
 - D.** Crimper
-

The Answer: **B.** Tone generator

A tone generator is used to produce an analog tone on the cable, and an inductive probe is used to "listen" for the tone on the other end of the cable.

The incorrect answers:

A. Cable tester

A cable tester could be used to confirm the wire map of the cable, but you would first need to locate both ends before this would be possible. A cable tester doesn't provide a way to locate both ends of a cable.

C. Multimeter

A multimeter could be used to verify continuity and the wire map of the cable, but both ends of the cable would need to be close to the multimeter. A multimeter can't be used to locate both ends of a cable.

D. Crimper

If the RJ45 connector on the cable was faulty, a crimper could be used to attach a new connector to the cable.



More information:

220-1201, Objective 2.8 - Network Tools

<https://professormesser.link/1201020801>

A10. A network administrator has received a ticket complaining of port flapping on an Ethernet switch. Which of the following would be the most likely reason for this issue?

- A.** Firewall rule is blocking traffic
 - B.** Faulty crimp on an Ethernet connector
 - C.** Excessive jitter measurements
 - D.** Duplex mismatch
-

The Answer: **B.** Faulty crimp on an Ethernet connector

Port flapping describes a network interface which constantly transitions between connected and disconnected. This can sometimes be related to software or firmware, but is most likely associated with a hardware issue. For example, a faulty cable or connector could cause intermittent connectivity and create a flapping Ethernet port.

The incorrect answers:

A. Firewall rule is blocking traffic

Denying or allowing traffic on a firewall would not cause an Ethernet interface to physically disconnect or connect itself from the network.

C. Excessive jitter measurements

Jitter measures the time between network frames, and excessive jitter could disrupt real-time voice or video communication. However, excessive jitter would not cause an Ethernet interface to physically disconnect or connect.

D. Duplex mismatch

A duplex mismatch would certainly cause performance issues and slowdowns, but it would not cause an Ethernet link to constantly disconnect and reconnect.



More information:

220-1201, Objective 5.5 - Troubleshooting Networks

<https://professormesser.link/1201050501>

A11. A user has powered on their computer and received the message "Operating system not found." A check of the system shows the SATA drive cables are properly connected. Which of the following would be the next best troubleshooting step?

- A. Boot to Safe Mode
 - B. Replace the boot drive
 - C. Restore from a known good backup
 - D. Check for removable drives
-

The Answer: D. Check for removable drives

If a USB (Universal Serial Bus) storage device is connected to a computer and the BIOS (Basic Input/Output System) is checking USB devices before the primary storage drive, the "Operating system not found" error could appear with some USB devices. To avoid this error, the boot order in the BIOS can be changed, or the USB device can be disconnected during the boot process and reconnected after the operating system has started.

The incorrect answers:

A. Boot to Safe Mode

Safe Mode is a Windows mode used to launch the operating system with minimal services and OS requirements. Safe Mode requires a bootable drive, so the error message in this question would prevent Safe Mode from starting.

B. Replace the boot drive

There's not enough information to determine if the boot drive is bad or faulty, so immediately replacing it would be premature. If there aren't any removable storage devices connected to the system, then running hardware diagnostics of the drive would be a good next step before considering a hardware replacement.

C. Restore from a known good backup

This question doesn't provide enough information about the state of the primary boot drive, so making any significant changes to the data on the drive would not be the best next step.



More information:

220-1201, Objective 5.2 - Troubleshooting Storage Devices

<https://professormesser.link/1201050201>

A12. A user is having an issue with a smartphone battery bulging and physically pushing the screen away from the phone. The rest of the phone appears to be operating normally. Which of the following should be the best next troubleshooting step?

- A.** Power off the phone and contact support
 - B.** Upgrade to the latest OS version
 - C.** Replace the screen
 - D.** Perform a factory reset
-

The Answer: **A.** Power off the phone and contact support

A swollen battery indicates damage to the battery and could potentially be a fire hazard. The phone should be powered down and the damaged battery should be removed by a trained smartphone support technician.

The incorrect answers:

B. Upgrade to the latest OS version

Upgrading software on the smartphone will not fix a damaged battery. The best practice with a bulging or swollen battery is to power down the device and replace the battery.

C. Replace the screen

Although a bulging battery may damage other components, there's nothing in this question which indicates any damage to the screen. Any necessary repairs should take place after the damaged battery is replaced.

D. Perform a factory reset

A factory reset is a good option for troubleshooting unknown software issues, but it won't correct the damage to a battery. The smartphone should be powered off immediately and repaired.



More information:

220-1201, Objective 5.4 - Troubleshooting Mobile Devices

<https://professormesser.link/1201050401>

A13. A client's laptop appears to boot normally, but nothing ever appears on the LCD. After closer inspection, you notice the output is visible but it's too faint to clearly see anything. What is the most likely cause of this issue?

- A.** Video card
 - B.** Inverter
 - C.** Video driver
 - D.** Power adapter
-

The Answer: **B.** Inverter

The inverter powers the CCFL (Cold Cathode Fluorescent Lamp) LCD (Liquid Crystal Display) backlight, allowing you to easily view the pixels on the display. Most newer laptops will use LED (Light Emitting Diode) backlights with existing DC (Direct Current) power and these LED lights don't require an inverter.

The incorrect answers:

A. Video card

A faulty video card might cause the video display to stop working completely, or the information on the screen may be corrupted. A faulty video adapter does not commonly cause the display to have a decreased backlight setting.

C. Video driver

Bad video drivers often cause issues with resolution settings or aspect ratios, but a bad video driver does not commonly affect the backlight settings.

D. Power adapter

A bad power adapter would cause a laptop to fail during the boot process or fail to properly charge a battery. A bad power supply would not usually cause everything to work properly except for the backlight.



More information:

220-1201, Objective 3.1 - Display Types
<https://professormesser.link/1201030101>

A14. A graphics designer is experiencing increasing delays when accessing files on her hard drive. The user maintains a daily backup of all data on the drive. Which of these would be the best next troubleshooting step for this issue?

- A.** Reinstall Windows
 - B.** Perform a hard drive diagnostic
 - C.** Restore from the daily backup
 - D.** Boot to Safe Mode
-

The Answer: **B.** Perform a hard drive diagnostic

Before making any changes, it would be useful to gather more information about this problem. A hardware diagnostic would determine if the hard drive itself is working properly. If the hard drive is operating normally, the troubleshooting process can then focus on the operating system and software.

The incorrect answers:

A. Reinstall Windows

Reinstalling Windows won't help if the hard drive is not operating properly. The installation process is also a time-consuming and significant change, so it's important to know if the underlying hardware is working.

C. Restore from the daily backup

The root cause of this issue hasn't been identified, so any significant change to the user's data would be premature. The user may have also modified some of this data since the backup was taken, so restoring the backup could potentially result in the loss of user data.

D. Boot to Safe Mode

Safe Mode will start Windows with a minimal configuration, and this could help troubleshoot software issues with the operating system itself. Before analyzing the software, it would be important to know if the underlying hardware is working properly.



More information:

220-1201, Objective 5.2 - Troubleshooting Storage Devices

<https://professormesser.link/1201050201>

A15. Which of the following would be most likely found on an optical disc?

- A. Document archive
 - B. Operating system boot files
 - C. RAID parity files
 - D. BIOS configurations
-

The Answer: A. Document archive

An optical disc such as a DVD-ROM (Digital Versatile Disc - Read Only Memory) has the advantage of a relatively large storage area and the ability to write once and never worry about an accidental deletion. The storage of documents and other files is a common use of optical discs.

The incorrect answers:

B. Operating system boot files

Although it is possible to boot an operating system from an optical disc, it's not a common use of the format. It's much more common to store operating system files on a local storage drive with a higher storage capacity and throughput, such as a hard drive or SSD (Solid-State Drive).

C. RAID parity files

A RAID (Redundant Array of Independent Disks) array requires all of the data and parity information reside on the local storage drives. Parity information would not be stored on an optical disc.

D. BIOS configurations

BIOS configurations need to be accessible from the motherboard of a computer, and not from other storage devices. BIOS configurations would not be found on an optical disc.



More information:

220-1201, Objective 3.4 - Storage Devices

<https://professormesser.link/1201030401>

A16. When a user starts their computer, the screen remains blank and the computer beeps twice. Which of these would be the most likely cause of this issue?

- A. The boot device is not connected
 - B. The memory is faulty
 - C. The operating system has become corrupted
 - D. The PC is infected with malware
-

The Answer: B. The memory is faulty

The POST (Power On Self Test) is the initial hardware check during the startup process. If a major hardware component is faulty, the computer will beep and a message will be displayed on the screen. If the issue is related to a critical component, the computer will not be able to display a message on the screen and instead will beep a certain number of times as a code to specify the error.

The incorrect answers:

A. The boot device is not connected

A missing boot device would display the normal BIOS startup and display a message on the screen for "No Boot Device Found."

C. The operating system has become corrupted

A bad operating system would display the normal BIOS startup messages. When the operating system tries to load, the OS will provide error messages on the screen for any issues related to the corrupted files.

D. The PC is infected with malware

A malware infection would not commonly cause a system to boot with a blank screen and a beep code. Malware would be identified once the operating system has started.



More information:

220-1201, Objective 5.1 - Troubleshooting Hardware

<https://professormesser.link/1201050101>

A17. A firewall is configured to block email transfers from a remote server. Which of the following ports is the firewall blocking?

- A.** 443
 - B.** 22
 - C.** 23
 - D.** 25
-

The Answer: **D.** 25

Port 25 is used by SMTP (Simple Mail Transfer Protocol) to send email messages from devices and transfer those messages between SMTP email servers.

The incorrect answers:

A. 443

Port 443 is commonly used by web browsers to transfer information using SSL (Secure Sockets Layer) or TLS (Transport Layer Security) encryption protocols.

B. 22

The SSH (Secure Shell) protocol uses port 22 as encrypted terminal communication. SSH is commonly used to access the command line terminal of remote devices and servers.

C. 23

Port 23 is used by Telnet for non-encrypted terminal communication between devices.



More information:

220-1201, Objective 2.1 - Common Ports

<https://professormesser.link/1201020102>

A18. A technician is connecting a laptop to an LCD projector in a conference room. The display on the laptop works properly, but the projector image is constantly flickering and pixelating. The technician has modified the resolution and refresh rates, but the projector image continues to flicker. Which of the following would be the best next troubleshooting step?

- A.** Replace the video cable
 - B.** Disable the laptop display
 - C.** Replace the projector bulb
 - D.** Power cycle the projector
-

The Answer: **A.** Replace the video cable

A display issue associated with flickering and poor video quality would commonly point to the connection between the video adapter and the display device. In the case of an LCD (Liquid Crystal Display) projector, there's sometimes a very long (and very worn) cable which can cause signal issues to show on the projected image.

The incorrect answers:

B. Disable the laptop display

Disabling the laptop display won't help with any signal problems. This would probably also hinder the troubleshooting process because you wouldn't be able to properly see the display information due to all of the flickering and pixelating.

C. Replace the projector bulb

The bulb in an LCD projector either works or doesn't, so it will be very obvious if the bulb is faulty. In this example, the projector bulb is working, but the information displayed on the projector is difficult to see.

D. Power cycle the projector

The projector itself would not commonly cause any display flickering or image problems, so power cycling the projector wouldn't normally resolve this type of problem. If all other troubleshooting tasks fail, then power cycling everything might be an option, but it wouldn't be the first troubleshooting step.



More information:

220-1201, Objective 5.3 - Troubleshooting Display Issues

<https://professormesser.link/1201050301>

A19. The stylus on an Android tablet will no longer interact with the user interface. Which of these would be the most likely cause of this issue?

- A. Digitizer
 - B. Backlight
 - C. Contrast
 - D. Inverter
-

The Answer: A. Digitizer

The digitizer is the component in a touch screen to convert analog input from a fingerprint or stylus into a digital input. If the digitizer is having an issue, then problems will occur with any direct screen input.

The incorrect answers:

B. Backlight

An LCD (Liquid Crystal Display) screen does not produce any light, so a backlight is used to make the screen bright enough to see. The brightness of the screen does not have any effect on the stylus.

C. Contrast

The contrast and brightness controls do not effect the use of a stylus on an LCD.

D. Inverter

An inverter is used in older LCDs to invert DC (Direct Current) power into AC (Alternating Current) power. This AC power is used by CCFL (Cold Cathode Fluorescent Lamp) backlights. Most of the newer LCDs contain LED (Light Emitting Diode) backlights which use the existing DC power and do not require an inverter.



More information:

220-1201, Objective 3.1 - Display Types

<https://professormesser.link/1201030101>

A20. A user in the accounting department needs to print a form on the laser printer on both sides of the page. Which of the following options should be configured in the accounting software?

- A.** Tray settings
 - B.** Orientation
 - C.** Duplex
 - D.** Resolution
-

The Answer: **C.** Duplex

The duplex setting prints the output on both sides of the page, and a printer which supports duplexing will flip the page over without any manual intervention from the user.

The incorrect answers:

A. Tray settings

A printer's tray settings can be used to select the right paper type or different paper sizes. The tray settings would not generally provide an option to print on both sides of the page.

B. Orientation

The orientation setting will change the output between portrait or landscape. The orientation option will not change which sides of the page are used during the printing process.

D. Resolution

The resolution setting will modify the number of dots per inch used for the output. A larger number of dots per inch will increase the resolution and make the text and images appear sharper on the page.



More information:

220-1201, Objective 3.7 - Multifunction Devices

<https://professormesser.link/1201030701>

A21. A user needs to connect their laptop to the wired Ethernet network, but the laptop does not have an integrated Ethernet interface. Which of the following would allow the laptop to connect to an Ethernet network? (Pick TWO)

- A. Docking station
 - B. VGA interface
 - C. USB to Ethernet adapter
 - D. DisplayPort to HDMI cable
 - E. DVI to HDMI adapter
 - F. Bluetooth
-

The Answers: A. Docking station, and
C. USB to Ethernet adapter

There are a few options for creating a wired Ethernet connection on a laptop computer. Using a docking station is a common solution to provide many different interfaces, and docking stations often include the option to install a full-size PCI Express (Peripheral Component Interconnect Express) adapter. A USB (Universal Serial Bus) to Ethernet adapter is a simpler solution which only provides an Ethernet interface, but it's much more portable than a docking station.

The incorrect answers:

B. VGA interface

A VGA (Video Graphics Array) interface is an interface for video output and does not provide Ethernet connectivity.

D. DisplayPort to HDMI cable

Both DisplayPort and HDMI (High-Definition Multimedia Interface) provide video output and are not used for Ethernet on a laptop computer.

E. DVI to HDMI adapter

DVI (Digital Visual Interface) and HDMI are video interfaces and do not provide a wired Ethernet link.

F. Bluetooth

Bluetooth is a wireless PAN (Personal Area Network), and it does not provide wired Ethernet connectivity.



More information:

220-1201, Objective 3.2 - Adapters and Converters

<https://professormesser.link/1201030207>

A22. A server administrator has received an alert showing one drive in a RAID 1 array has failed. Which of the following would be the best way to resolve this alert?

- A.** Replace the bad drive and resync the array
 - B.** Replace all drives in the array and resync the array
 - C.** Replace the bad drive and restore from backup
 - D.** Convert the array to RAID 0 and replace the drive
 - E.** Replace all drives in the array and restore from backup
-

The Answer: **A.** Replace the bad drive and resync the array

A RAID 1 (Redundant Array of Independent Disks, level 1) array is a mirrored array, which means all of the information on one physical drive is also copied and maintained on a separate drive. If one drive fails, the drive with the redundant data continues to be available. To repair the array, the bad drive needs to be replaced and the data from the redundant drive is synchronized to the new drive.

The incorrect answers:

B. Replace all drives in the array and resync the array

A RAID 1 array continues to run after a drive outage, and all data continues to be available. There's no reason to replace all of the drives in the array, and if all drives were replaced there would be nothing to resync.

C. Replace the bad drive and restore from backup

Since no data is lost after a single drive failure in a RAID 1 array, restoring from backup is not necessary.

D. Convert the array to RAID 0 and replace the drive

RAID 0 is striping data across drives, and there is no redundancy in a RAID 0 array. It's unusual to convert arrays between RAID levels, and a conversion is not necessary to restore full functionality to this RAID 1 array.

E. Replace all drives in the array and restore from backup

There's no need to restore from backup when replacing a single drive in a RAID 1 array.



More information:

220-1201, Objective 5.2 - Troubleshooting Storage Devices

<https://professormesser.link/1201050201>

A23. A system administrator is building a server for a data center in another country. The server will manage a print queue and provide a local storage partition for temporary file transfers. Which of the following power supply specifications will be the most important for this server?

- A.** Voltage input options
 - B.** Number of PCIe connectors
 - C.** Modular cabling
 - D.** Fan noise rating
-

The Answer: **A.** Voltage input options

Connecting to the power source in a different country is an important consideration when selecting a power supply. If the voltage specifications are incorrect, the server may not operate at all or components in the server may be damaged. Servers using auto-switching power supplies are compatible with the power systems in other countries.

The incorrect answers:

B. Number of PCIe connectors

PCIe (Peripheral Component Interconnect Express) is a standard bus type, and some of the adapters on this bus may require additional power. However, none of the requirements of this server would need more PCIe connectors than a standard power supply.

C. Modular cabling

Using a power supply with modular cables can help with airflow, but this modularity isn't a requirement for most systems. Most data centers are climate controlled, so it shouldn't be difficult to maintain a reasonable temperature with a non-modular power supply.

D. Fan noise rating

A data center is usually quite noisy, so the noise rating of a power supply is not going to be a significant concern.



More information:

220-1201, Objective 3.6 - Power

<https://professormesser.link/1201030601>

A24. Which of the following ports are used for file transfers? (Select TWO)

- A. 21
 - B. 110
 - C. 25
 - D. 23
 - E. 20
 - F. 53
-

The Answer: A. 21 and E. 20

FTP (File Transfer Protocol) is a standard method of transferring files across different operating systems. FTP uses TCP (Transmission Control Protocol) port 21 for control messages and port 20 to transfer data.

The incorrect answers:

B. 110

Port 110 is the default port for POP3 (Post Office Protocol version 3). POP3 is commonly used to retrieve email messages from an email server to a local email client application.

C. 25

Another common email protocol is SMTP (Simple Mail Transfer Protocol), which uses port 25 for sending mail to a mail server and to transfer email messages between mail servers.

D. 23

Non-encrypted (in-the-clear) terminal communication is provided with the Telnet (Telecommunication Network) protocol over port 23.

F. 53

Port 53 is the default port for DNS (Domain Name System). DNS is commonly used to convert fully qualified domain names to IP addresses.



More information:

220-1201, Objective 2.1 - Port Numbers

<https://professormesser.link/1201020102>

A25. Which of these technologies do not require a backlight to provide a viewable display?

- A. LCD
 - B. IPS
 - C. OLED
 - D. Mini LED
-

The Answer: C. OLED

An OLED (Organic Light Emitting Diode) display emits light when a current is provided to an organic compound. A backlight would not be necessary with an OLED display.

The incorrect answers:

A. LCD

An LCD (Liquid Crystal Display) screen does not produce any light, so a backlight is required to see the screen contents. Most LCD displays use LEDs (Light Emitting Diodes) or CCFLs (Cold Cathode Fluorescent Lamps) as a backlight.

B. IPS

IPS (In Plane Switching) LCD monitors provide excellent color representation, but they are still LCDs and require a backlight.

D. Mini LED

Mini LED is a type of backlight commonly used on LCD displays to distribute many small backlight LEDs across the entire display area.



More information:

220-1201, Objective 3.1 - Display Types

<https://professormesser.link/1201030101>

A26. A system administrator has tripped over an Ethernet cable and the cable's RJ45 connector has broken. Which of the following should be used to resolve this issue?

- A.** Punch-down tool
 - B.** Tone generator and probe
 - C.** Cable tester
 - D.** Crimper
-

The Answer: **D.** Crimper

A crimper is used to attach a modular connector to a cable. In this example, a new connector can be reattached to the cable using an RJ45 (Registered Jack type 45) crimper.

The incorrect answers:

A. Punch-down tool

A punch-down tool is used to connect wires to punch-down blocks, such as a 110 block. A punch-down tool can't be used to attach a new RJ45 connector to a cable.

B. Tone generator and probe

Tone generators and inductive probes are used to find both ends of a cable. Toner probes are not used to connect RJ45 connectors.

C. Cable tester

Cable testers can be used to determine the wire map of a cable. Once the crimper has been used to attach the RJ45 connector, the cable tester can confirm the connector is properly wired. Cable testers are not used to connect modular connectors to a cable.



More information:

220-1201, Objective 2.8 - Network Tools

<https://professormesser.link/1201020801>

A27. A system administrator hears an audible alarm when they walk in the door of the data center. Which of the following would be the most likely reason for this alarm?

- A.** An operating system has failed to boot
 - B.** A RAID array has failed
 - C.** A backup drive is full
 - D.** A network uplink is disconnected
-

The Answers: **B.** A RAID array has failed

Most RAID arrays will provide an audible alarm if a drive has failed. This loud alert informs anyone nearby that a serious error has occurred and needs to be addressed immediately to avoid any potential data loss.

The incorrect answers:

A. An operating system has failed to boot

Although a non-booting system can be a significant issue, it doesn't commonly cause data loss. A boot problem with an operating system will not commonly be associated with an audible alarm.

C. A backup drive is full

A full drive will often cause errors with operating systems and applications, but it does not include any type of audible feedback.

Although the full storage drive condition will most likely need to be resolved, it does not include an audible alert.

D. A network uplink is disconnected

A network uplink is used to connect multiple network devices together, and often will link one switch to another. If this link fails, the communications link between the devices will stop forwarding data. This type of disconnection does not commonly cause an audible alarm, however.



More information:

220-1201, Objective 5.2 - Troubleshooting Storage Devices
<https://professormesser.link/1201050201>

A28. A newly installed multifunction device provides an option to "scan to SMB." Which of the following would best describe this feature?

- A.** Print jobs can be sent from mobile devices
 - B.** All scans are checked for malware
 - C.** Files are stored on a Microsoft share
 - D.** Documents are scanned from the cloud
-

The Answer: **C.** Files are stored on a Microsoft share

SMB (Server Message Block) is the protocol used by Microsoft operating systems to share files, print jobs, and other information between other Microsoft OS devices. Many multifunction devices can scan a document and store the scanned file on a central network share using SMB.

The incorrect answers:

A. Print jobs can be sent from mobile devices

Many mobile devices can send jobs to a local printer, but this feature isn't part of the scanning process.

B. All scans are checked for malware

Although it's important to protect against all sources of malware, it would be unusual for a newly scanned document on a local multifunction device to contain any malicious software.

D. Documents are scanned from the cloud

Many multifunction devices can support input from different sources, but the scan to SMB feature describes the location of the output file once the original document has been scanned.



More information:



220-1201, Objective 3.7 - Multifunction Devices

<https://professormesser.link/1201030701>

A29. A network administrator is powering their access points using voltage provided through the existing Ethernet cables. Which of the following technologies is associated with this power source?

- A.** UPS
 - B.** PoE switch
 - C.** Router
 - D.** Surge protector
-

The Answer: **B.** PoE switch

A PoE (Power over Ethernet) switch provides voltage over the Ethernet cable itself. This allows devices to power and communicate using voltage added to the Ethernet cable at a PoE switch or using an PoE injector.

The incorrect answers:

A. UPS

A UPS (Uninterruptible Power Supply) is used to maintain a battery backup if the main power connection fails. A UPS does not commonly power devices over Ethernet cables.

C. Router

A router is used to forward traffic from one IP subnet to another. Power over an Ethernet cable is not commonly associated with a router.

D. Surge protector

A surge protector is responsible for filtering any high or low voltages over an existing power connection. A surge protector does not provide power to systems over an Ethernet connection.



More information:

220-1201, Objective 2.5 - Network Devices

<https://professormesser.link/1201020501>

A30. In which of the following would a Lightning cable most likely be used?

- A.** Connect a server to a display monitor
 - B.** Increase the available memory of a device
 - C.** Remotely control a mobile device
 - D.** Charge a mobile device
-

The Answer: **D.** Charge a mobile device

The Lightning interface is a proprietary interface used exclusively on mobile devices from Apple. The Lightning interface is a common connection for data transfers and power charging for many Apple mobile devices.

The incorrect answers:

A. Connect a server to a display monitor

Although there are video output adapters available for Lightning connectors, these options tend to be used exclusively for Apple's phones and tablets and are not commonly used on standalone computers or servers.

B. Increase the available memory of a device

Although there are options to provide external storage using a lightning connection, the memory used in an Apple mobile device is limited to the installed internal RAM (Random Access Memory).

C. Remotely control a mobile device

Although there are remote control options available for Apple devices, these solutions use an existing network connection and do not use the Lightning interface.



More information:

220-1201, Objective 3.2 - Copper Connectors

<https://professormesser.link/1201030208>

- A31.** A network administrator would like to enable DHCP on a laptop, but they would like the same IP address to be assigned to the laptop each time it starts. Which of the following would provide this functionality?
- A. Create an IP reservation on the DHCP server
 - B. Administratively configure the laptop's MAC address
 - C. Use APIPA addressing
 - D. Assign the laptop to a static IP VLAN
-

The Answer: A. Create an IP reservation on the DHCP server

A DHCP (Dynamic Host Configuration Protocol) server will automatically assign IP (Internet Protocol) addresses to devices on the network from an available pool. This means the IP address for a device may change over time based on the addresses currently available in the pool. To force the same IP address assignment each time, the network administrator can create an IP reservation in the DHCP server to associate a specific IP address to the MAC (Media Access Control) address of the laptop.

The incorrect answers:

B. Administratively configure the laptop's MAC address

The MAC address of a device will rarely need to be changed through an administrative configuration, and administratively configuring the MAC address will not permanently assign a particular IP address.

C. Use APIPA addressing

APIPA (Automatic Private IP Addressing) can provide limited networking when a DHCP server is not available, but APIPA addressing does not provide any static or permanent IP addressing on a device.

D. Assign the laptop to a static IP VLAN

VLANs (Virtual Local Area Networks) are commonly used to segment the network into individual broadcast domains. Assigning a device to a particular VLAN does not provide a method of static or permanent IP addressing on a device.



More information:

220-1201, Objective 2.4 - DHCP

<https://professormesser.link/1201020402>

A32. A user is complaining about slow network performance from their workstation. A network technician checks the data closet and finds the wires are not properly seated in the 110 block. Which of the following should the technician use to correct this issue?

- A.** Crimper
 - B.** Multimeter
 - C.** Punch-down tool
 - D.** Cable tester
-

The Answer: **C.** Punch-down tool

A punch-down tool is used to firmly "punch" a wire into a wiring block. These blocks are usually located in a wiring closet or on a patch panel.

The incorrect answers:

A. Crimper

A crimper is used to fasten a modular connector onto the end of a cable. For Ethernet, a crimper attaches the RJ45 connector used by the workstation or laptop.

B. Multimeter

A multimeter can be used to check for voltages or continuity, but it won't connect wires to a 110 block.

D. Cable tester

Cable testers can identify the wire map on a cable to ensure the punch-down or crimping process has been performed properly. After punching down this connection, the technician could use a cable tester to validate all of the wires are now properly connected.



More information:

220-1201, Objective 2.8 - Network Tools

<https://professormesser.link/1201020801>

A33. A user has just connected to a new wireless network, but they cannot view any Internet web sites. Their network configuration shows the IP address as 169.254.228.109, the subnet mask is 255.255.0.0, and they have not been assigned a default gateway. Which of these is the most likely cause of this issue?

- A.** The subnet mask is not correct
 - B.** The Internet provider is experiencing a temporary outage
 - C.** The DHCP server is down
 - D.** The wireless adapter is not working properly
-

The Answer: **C.** The DHCP server is down

If a DHCP (Dynamic Host Configuration Protocol) server is not responding, the local workstation will configure itself with an APIPA (Automatic Private IP Addressing) address. The usable APIPA addresses range between 169.254.1.0 through 169.254.254.255. An APIPA address is a link-local address, so network communication is limited to the local IP subnet.

The incorrect answers:

A. The subnet mask is not correct

The subnet mask has been configured through APIPA, and the mask of 255.255.0.0 is normal for an APIPA configuration. The subnet mask is not the cause of the browsing issues on the workstation.

B. The Internet provider is experiencing a temporary outage

In this example, the issue is related to the APIPA link-local address assigned to the workstation. Although the Internet provider could potentially be experiencing issues, it would not be the most likely cause of the problem.

D. The wireless adapter is not working properly

The wireless adapter has configured itself and assigned a link-local APIPA address, so it appears the adapter itself is functional.



More information:

220-1201, Objective 5.5 - Troubleshooting Networks

<https://professormesser.link/1201050501>

A34. A help desk technician needs to use different Windows versions to study for an industry certification exam. The technician currently uses a Windows desktop computer with 4 GB of RAM and a 750 GB free on the hard drive. Which of the following would be the best way to perform this task? (Choose TWO)

- A.** Install a second monitor
 - B.** Install an additional hard drive
 - C.** Create a Windows Recovery Environment boot drive
 - D.** Upgrade the system RAM
 - E.** Install Windows guest VMs
-

The Answers: **D.** Upgrade the system RAM, and
E. Install Windows guest VMs

The easiest way to use multiple operating systems on a single machine is to run them as virtual machines. Although 750 GB (Gigabytes) is plenty of storage space for multiple virtual machines, the 4 GB of RAM (Random Access Memory) on the host computer is too small to support multiple Windows operating systems at the same time. Once the memory upgrade is complete, it's a relatively easy process to install the guest virtual machines on the existing hard drive.

The incorrect answers:

A. Install a second monitor

Multiple monitors can certainly improve overall efficiency and can expand the working desktop of a computer, but it doesn't provide any features specific to multiple operating systems or virtual machines.

B. Install an additional hard drive

The available hard drive is large enough to support the installation of multiple virtual machines.

C. Create a Windows Recovery Environment boot drive

A Windows Recovery Environment drive is useful for troubleshooting the existing Windows installation, but it won't help with multiple operating systems.



More information:

220-1201, Objective 4.1 - Virtualization Services

<https://professormesser.link/1201040102>

A35. While configuring a new workstation in the lab, one of the engineers recommends using 255.255.255.0. What part of the configuration is this associated with?

- A. Default gateway
 - B. Subnet mask
 - C. DNS server
 - D. IP address
-

The Answer: B. Subnet mask

Subnet masks are used by a device to determine what subnet it's connected to. Subnet masks are a series of binary ones that are used to "mask" the subnet address from the host address. Instead of representing this mask in binary, it's almost always shown in decimal form. Common decimal representations of subnet mask start with 255, such as 255.255.255.0.

The incorrect answers:

A. Default gateway

A default gateway on an internal lab network will most likely be using private IP (Internet Protocol) addressing starting with 10, 172, or a 192. IP addresses cannot start with an octet of 255. Therefore, a default gateway in this environment would not have an IP address of 255.255.255.0.

C. DNS server

Since an IP address cannot start with the octet of 255, this address would not be associated with a DNS server.

D. IP address

The IP address of a device cannot start with 255. It's most likely that a device in a lab would use an internal IP address that starts with an octet of 10, 172, or 192.



More information:

220-1201, Objective 2.6 - IPv4 and IPv6

<https://professormesser.link/1201020601>

A36. Which of the following best describes a Bluetooth network?

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

The Answer: A. PAN

A PAN (Personal Area Network) is designed for a small area and usually is associated with an individual. Bluetooth devices such as headsets, speakers, and automobile connections are considered PANs.

The incorrect answers:

B. WAN

A WAN (Wide Area Network) usually connects locations over an extended geographical distance. A network link between cities, states, or countries would be considered a WAN connection.

C. LAN

The network in your building or home is a LAN (Local Area Network). If you're connected to an Ethernet or 802.11 wireless network, then you're connected to a LAN.

D. MAN

A MAN (Metropolitan Area Network) is a bit bigger than a LAN, but smaller than a WAN. Connecting sites in the same city or metropolitan area would commonly use a MAN link.



More information:

220-1201, Objective 2.7 - Network Types

<https://professormesser.link/1201020702>

A37. During the onboarding process, an employee's phone has been added to the corporate MDM. Which of the following would best describe this deployment strategy?

- A. COPE
 - B. SaaS
 - C. BYOD
 - D. SMB
-

The Answer: C. BYOD

BYOD (Bring Your Own Device) describes the use of personal devices in corporate settings. These devices are often managed through a centralized MDM (Mobile Device Manager).

The incorrect answers:

A. COPE

The COPE (Corporate owned, personally enabled) deployment model uses devices owned by the corporation and assigned to individual employees. A user's personal phone would not be part of a COPE deployment model.

B. SaaS

SaaS (Software as a Service) describes a cloud deployment model associated with application instances. SaaS does not describe the use of personal devices in an organization.

D. SMB

SMB (Server Message Block) is a protocol commonly associated with Windows file and printer sharing. SMB is not part of a mobile device deployment strategy.



More information:

220-1201, Objective 1.3 - Mobile Device Management
<https://professormesser.link/1201010302>

A38. A user's smartphone shows a black screen and does not respond to any screen taps or button presses. A check of the SIM card shows a red label but no physical damage. Which of the following is the most likely reason for these issues?

- A.** Overheating
 - B.** Digitizer failure
 - C.** Liquid damage
 - D.** Invalid SIM card
-

The Answer: **C.** Liquid damage

Most smartphones and tablets include a liquid contact indicator (LCI). This indicator is usually white, and it can often be seen without disassembling the device. If the LCI turns pink or red, the device has been in close contact with liquid.

The incorrect answers:

A. Overheating

An overheated device will remain off until the system has cooled. A message will be displayed on the screen describing the overheating condition.

B. Digitizer failure

A digitizer failure may cause the screen to become unresponsive, but the device should still respond to button presses.

D. Invalid SIM card

An invalid SIM card would cause the device to lose connectivity with the mobile provider, but the smartphone would still work normally and respond to user input.



More information:

220-1201, Objective 5.4 - Troubleshooting Mobile Devices

<https://professormesser.link/1201050401>

A39. An administrator needs to obtain the MAC address of a print server.
Which of the following would be the best source of this information?

- A. Router
 - B. NIC
 - C. Firewall
 - D. ONT
-

The Answer: B. NIC

A MAC (Media Access Control) address is commonly associated with a NIC (Network Interface Card). Each MAC address is a unique value and is burned-in to the ROM (Read Only Memory) of the NIC.

The incorrect answers:

A. Router

A router is used to forward traffic based on the destination IP address of a packet. A router does not contain the MAC address of a print server.

C. Firewall

A firewall allows or blocks traffic based on predefined rules or ACLs (Access Control Lists). A firewall does not manage the MAC addresses of other devices.

D. ONT

An ONT (Optical Network Terminal) is used to connect an ISP's (Internet Service Provider's) fiber network to the copper network at a home or office.



More information:

220-1201, Objective 2.5 - Network Devices

<https://professormesser.link/1201020501>

A40. A user would like to access email from their Windows 11 laptop using a smartphone's Internet connection. Which of these technologies needs to be enabled on the laptop?

- A.** 5G
 - B.** 802.11
 - C.** NFC
 - D.** GPS
-

The Answer: **B.** 802.11

An Internet hotspot commonly uses 802.11 wireless connections to connect a laptop and a smartphone together. The laptop will communicate to the smartphone over 802.11, and the smartphone is used to connect to resources on the Internet using 5G or a similar cellular technology.

The incorrect answers:

A. 5G

The fifth generation of cellular technologies would be commonly associated with the connection between the smartphone and the cellular network. The hotspot connection between the laptop and phone would not use 5G as the communication method.

C. NFC

NFC (Near Field Communication) is a short-distance wireless technology commonly used for payment systems or in-person information exchange. NFC is not used for connecting to a hotspot on a smartphone.

D. GPS

GPS (Global Positioning System) is useful for determining a specific location, but it's not used for Internet connectivity.



More information:

220-1201, Objective 1.2 - Connecting Mobile Devices

<https://professormesser.link/1201010201>

A41. A system administrator needs to upgrade a laptop from a hard drive to an SSD. Which of the following would provide the most efficient method of upgrading this system?

- A.** Create an image of the hard drive and restore to the SSD
 - B.** Install a new Windows license and application files on the SSD
 - C.** Backup all user documents and copy them to another computer
 - D.** Compress the home directory and upload it to cloud storage
-

The Answer: **A.** Create an image of the hard drive and restore to the SSD
A system image contains everything on the storage drive, so the restored system will have the same operating system, configuration options, user documents, and installed applications as the original system.

The incorrect answers:

B. Install a new Windows license and application files on the SSD
The process of installing a new version of Windows and installing every application will take much longer than creating an image and restoring that image to the SSD.

C. Backup all user documents and copy them to another computer
This would provide a copy of all of the user's spreadsheets, pictures, movies, and other important files, but it wouldn't install an operating system or all of the user's applications on the new SSD.

D. Compress the home directory and upload it to cloud storage
Compressing the user's home directory would conserve storage space during the backup process, but it won't install an operating system or the user's applications on the new SSD.



More information:

220-1201, Objective 1.1 - Laptop Hardware
<https://professormesser.link/1201010101>

A42. A new employee has been assigned a corporate smartphone, but the camera and the installation of third-party apps has been disabled. Which of the following is the most likely reason for these issues?

- A.** The smartphone is out of storage space
 - B.** The smartphone OS needs to be upgraded
 - C.** An MDM has disabled the features
 - D.** The smartphone hardware is faulty
-

The Answer: **C.** An MDM has disabled the features

An MDM (Mobile Device Manager) can enable or disable effectively any feature on the smartphone, including the camera and the app installation process.

The incorrect answers:

A. The smartphone is out of storage space

A lack of storage space could cause issues with the installation of new software, but the phone would provide messages and feedback regarding the lack of space.

B. The smartphone OS needs to be upgraded

An outdated operating system would not prevent the use of the camera or the installation of third-party apps.

D. The smartphone hardware is faulty

This could certainly cause some of the issues with the camera or app installation, but it's unlikely that both of those systems would be faulty on the same device.



More information:

220-1201, Objective 1.3 - Mobile Device Connectivity

<https://professormesser.link/1201010302>

A43. A system administrator is using a maintenance kit on a network-connected laser printer. Which of the following should be the last step when performing this maintenance?

- A.** Examine the feed rollers
 - B.** Wait until the fuser unit cools down and replace it
 - C.** Reset the page counter
 - D.** Replace the power cord
-

The Answer: **C.** Reset the page counter

The page counter is a helpful metric to determine how much the printer is used, which in turn determines when the next maintenance should be scheduled. After performing the current maintenance cycle and verifying the printer's operation, the page counter should be reset so the next maintenance time-frame can be properly estimated.

The incorrect answers:

A. Examine the feed rollers

Examining or replacing the feed rollers is a normal part of the maintenance process, but it would not often be the last step in the maintenance process.

B. Wait until the fuser unit cools down and replace it

Fusers can sometimes be replaced during maintenance, but this would not be the last step in the process.

D. Replace the power cord

Replacing the power cord is not commonly part of the maintenance process. The only time the power cord would need replacing is if it has been damaged. Power cords do not generally wear out or need replacement.



More information:



220-1201, Objective 3.8 - Laser Printer Maintenance

<https://professormesser.link/1201030802>

A44. An application developer needs to test an application across all of the operating systems used by the company. Each operating system will be tested individually in a lab environment. The company would like to minimize any additional hardware purchases for this project. Which of the following would be the best way to test this application?

- A.** Purchase a system configured just above the hardware requirements for the highest-end operating system. Create separate VMs for each operating system.
 - B.** Purchase individual test computers which match the hardware requirements for each OS. Install different operating systems on each test computer.
 - C.** Designate existing user workstations to be used as testing systems. Run all application tests during non-working hours.
 - D.** Purchase a system which matches the minimum hardware requirements for the highest-end operating system. Create a system image for each operating system and reimagine the computer between tests.
-

The Answer: **A.** Purchase a system that is configured just above the hardware requirements for the highest-end operating system. Create separate VMs for each operating system.

Creating virtual machines for these tests would be a great way to minimize hardware costs, and the machine used for the testing should be able to properly virtualize the testing OS while the host OS is running. Purchasing a system that is slightly more powerful than the highest-level operating system configuration should cover any technical requirements.

The incorrect answers:

B. Purchase individual test computers that match the hardware requirements for each OS. Install different operating systems on each test computer.

Since one of the project requirements was to minimize the hardware cost, purchasing separate computers for all of these systems would be much more expensive than purchasing a single computer and virtualizing the operating systems.

C. Designate existing user workstations to be used as testing systems. Run all application tests during non-working hours.

This solution would certainly minimize the hardware cost, but the process of using existing user workstations would be difficult to manage. This solution would also require the testing to occur during hours when the application developer would, by definition, not be working.

D. Purchase a system that matches the minimum hardware requirements for the highest-end operating system. Create a system image for each operating system and reimage the computer between tests.

Although this would technically be a valid alternative, it would be time consuming to constantly image and reimage the test system for every operating system. Using virtual machines would allow the application developer to instantly stop and start any operating system at any time.



More information:

220-1201, Objective 4.1 - Virtualization Concepts

<https://professormesser.link/1201040101>

A45. A graphics editor is purchasing a new monitor which will best match the color output of their laser printer. Which of the following specifications would best meet this requirement?

- A.** Pixel density
 - B.** Screen resolution
 - C.** Color gamut
 - D.** Refresh rate
-

The Answer: C. Color gamut

The color gamut describes the range of colors available on a device. A display with a comprehensive color gamut can best match the colors on other devices, including color laser printers.

The incorrect answers:

A. Pixel density

A pixel density describes the number of pixels contained in an inch of the display. A higher pixel density provides higher clarity and sharpness, but neither of those will help match a printer's color output.

B. Screen resolution

The screen resolution defines the total number of pixels on a device, and the resolution is often shown as the total number of pixels wide and the total number of pixels high. A higher resolution creates a more detailed output, but it doesn't change the color representation on a device.

D. Refresh rate

A refresh rate defines the number of times the image on a screen is updated. A higher refresh rate does not provide any additional color matching functionality.



More information:

220-1201, Objective 3.1 - Display Attributes

<https://professormesser.link/1201030102>

A46. A user in the manufacturing department reports every page printed from the central networked laser printer is jamming inside of the printer. Which of the following is the most likely cause of this issue?

- A.** The printer driver is outdated
 - B.** The printer language is not properly configured
 - C.** The paper is an incorrect weight
 - D.** The toner is low
-

The Answer: **C.** The paper is an incorrect weight

The paper path of a printer has been engineered for a specific range of paper weights, and going outside of this range can cause paper jams and creased pages in the final output.

The incorrect answers:

A. The printer driver is outdated

A printer driver provides access to printer trays and features on a specific printer model. An outdated or incorrect printer driver would not cause paper to jam inside of the printer.

B. The printer language is not properly configured

Using an incorrect printer control language will result in garbled or unusual output. An incorrect printer language will not cause the paper to jam or get stuck in the paper path.

D. The toner is low

If the printer output was very faint or difficult to read, the toner levels may be low. Most printers will provide a message when it's time to replace the toner cartridge. A low toner cartridge would not cause a paper jam.



More information:

220-1201, Objective 5.6 - Troubleshooting Printers

<https://professormesser.link/1201050601>

A47. Which mobile device connection is commonly used for making payments at a store checkout?

- A.** NFC
 - B.** Infrared
 - C.** Cellular
 - D.** Bluetooth
-

The Answer: **A.** NFC

NFC (Near Field Communication) is designed to transfer small amounts of data wirelessly over a limited area. It's common to use a smart phone or smart watch with a credit card terminal to pay for goods or services.

The incorrect answers:

B. Infrared

An infrared link is a line-of-sight wireless connection commonly associated with television remotes, home audio systems, and multimedia devices. An infrared connection would not be used during the checkout process.

C. Cellular

Cellular networks are used for voice and data communication, but those cellular networks are not part of the in-store purchase process.

D. Bluetooth

Although Bluetooth supports many different features, it's not used during the checkout process in a store.



More information:

220-1201, Objective 1.2 - Connecting Mobile Devices

<https://professormesser.link/1201010201>

A48. A company hosts a cloud-based application which includes redundant servers located in different data centers around the world. Which of the following cloud computing characteristics would best describe this application design?

- A.** Elasticity
 - B.** Availability
 - C.** Non-metered
 - D.** VDI
-

The Answer: B. Availability

If a single server fails, there are other servers available in different data centers for clients to access. This highly available design ensures the services are always available to the users.

The incorrect answers:

A. Elasticity

Elasticity provides a way to quickly scale up and down as needed. Although this is a common cloud computing characteristic, this specific example does not describe any scalability features.

C. Non-metered

A cloud service with a flat-fee for access to a resource is defined as non-metered. This example does not describe the billing for the service or the usage costs for any part of the service.

D. VDI

VDI, or Virtual Desktop Infrastructure, is a technology for running a user's desktop in the cloud. In this example, there's no mention of the application type or how a user's desktop would be integrated into this application.



More information:

220-1201, Objective 4.2 - Cloud Characteristics

<https://professormesser.link/1201040202>

A49. An administrator is installing a new database server. Which of the following technologies would maximize the data bandwidth when accessing memory modules?

- A.** Multiple channels
 - B.** Error correcting code
 - C.** Double data rate RAM
 - D.** NVMe storage
 - E.** Parity storage
-

The Answer: **A.** Multiple channels

A motherboard supporting multi-channel memory can use multiple memory modules to increase overall throughput.

The incorrect answers:

B. Error correcting code

Error correcting code (ECC) RAM (Random Access Memory) can identify and correct memory errors in real-time. ECC RAM does not provide any additional throughput, however.

C. SDRAM

SDRAM (Synchronous Dynamic RAM) is the standard memory type used on modern computers. SDRAM uses a centralized clock to synchronize data flows across the motherboard, but this process does not provide any additional throughput.

D. NVMe storage

The storage of data using NVMe (Non-Volatile Memory Express) does not increase the available throughput to a computer's memory modules.

E. Parity storage

Memory modules can use parity to identify and potentially correct memory errors. The storage of this parity information does not provide any additional RAM module throughput.



More information:

220-1201, Objective 3.3 - Memory Technologies

<https://professormesser.link/1201030302>

A50. A manager's computer is able to connect to Internet sites while in conference rooms or in the building courtyard. When the laptop is brought back to the manager's desk and placed into the docking station, the Internet access is unavailable but all other features are working. Which of the following should be the first troubleshooting task for this issue?

- A. Replace the docking station power supply
 - B. Upgrade the laptop BIOS
 - C. Replace the docking station
 - D. Check the docking station network cable
-

The Answer: D. Check the docking station network cable

The Internet access on the laptop appears to be working properly on the wireless network, but the docking station connection would use a wired Ethernet connection. If everything else is working properly, then the issue would most likely be associated with the Ethernet interface in the docking station.

The incorrect answers:

A. Replace the docking station power supply

If other docking station features were not working, there could be an issue with the power connection on the docking station. In this situation, all of the other features appeared to be working properly when connected to the docking station.

B. Upgrade the laptop BIOS

A BIOS upgrade is a significant change, and it's rarely the first step in the troubleshooting process.

C. Replace the docking station

Although it's certainly possible the docking station could be faulty, there are no obvious issues with other features. Before replacing the entire docking station, it would be useful to check the individual components associated with the problem.



More information:

220-1201, Objective 1.2 - Mobile Device Accessories

<https://professormesser.link/1201010202>

A51. The manager of the Accounting department would like to add another phone number to their iPhone to use while working at a regional site in another country. Which of the following would provide this functionality?

- A. MDM
 - B. eSIM
 - C. Bluetooth
 - D. Tether
-

The Answer: B. eSIM

An eSIM (Embedded Subscriber Identity Module) is an electronic method of applying carrier and user information to a smartphone. No additional hardware is required when using an eSIM, and the additional phone number can be updated in the phone software directly.

The incorrect answers:

A. MDM

An MDM (Mobile Device Manager) provides a service for managing and monitoring mobile devices, but an MDM does not provide additional phone numbers for smartphones.

C. Bluetooth

Bluetooth is a useful networking technology for connecting headsets, speakers, and other wireless devices to a smartphone, tablet, or desktop operating system. Bluetooth does not provide an additional phone number on a smartphone.

D. Tether

A tether describes a method of accessing the Internet using a smartphone as the connection. An Internet tether does not provide any additional phone numbers.



More information:

220-1201, Objective 1.3 - Mobile Device Networks

<https://professormesser.link/1201010301>

A52. Which of the following would be most associated with an IoT device?

- A. Multithreading
 - B. ARM
 - C. Virtualization support
 - D. ECC RAM
-

The Answers: B. ARM

An ARM (Advanced RISC Machine) processor architecture provides efficient processing, less power, and less heat than other processor types. This efficiency makes ARM a common choice for mobile and IoT (Internet of Things) devices.

The incorrect answers:

A. Multithreading

Multithreading is a common feature across most modern processors, so this would not be a feature most associated with IoT devices.

C. Virtualization support

Although virtualization support is common on larger computer systems, virtualization support is not commonly used with IoT devices.

D. ECC RAM

ECC (Error Correction Code) RAM (Random Access Memory) is commonly associated with larger servers and not with low-power IoT devices.



More information:

220-1201, Objective 3.5 - CPU Features



<https://professormesser.link/1201030508>

A53. A technician is working with a desktop computer where the display shows a completely black screen. Powering the computer and monitor off and back on does not correct the issue. Which of the following would be the most likely reason for this issue?

- A.** The computer resolution is different than the monitor
 - B.** The monitor input is incorrect
 - C.** Image scaling is disabled
 - D.** The monitor has a dead pixel
-

The Answer: **B.** The monitor input is incorrect

Many monitors have multiple input interfaces, but not all monitors will automatically switch to the active interface. Adjusting the input interface on the monitor controls will resolve any issues associated with the interface type and connection.

The incorrect answers:

A. The computer resolution is different than the monitor

Most monitors will adjust their display to match the resolution provided by the computer or video adapter. A resolution mismatch will usually result in a fuzzy image and not a blank screen.

C. Image scaling is disabled

Image scaling will fill the screen if the image is smaller than the size of the display. If scaling is disabled, the image will most likely be a smaller image in the middle of the screen and a large amount of black space around each side.

D. The monitor has a dead pixel

A dead pixel is usually displayed as a single black dot on an otherwise normal display. A dead pixel would not result in a completely blank screen.



More information:

220-1201, Objective 5.3 - Troubleshooting Display Issues

<https://professormesser.link/1201050301>

A54. An engineer has manually configured IP addresses for a small office which uses a cable modem for Internet connectivity. However, none of the devices configured with a manual IP address are able to browse Internet websites. All devices are connected to the cable modem with twisted-pair Ethernet cables. This is the configuration of one device:

IP address: 192.168.1.7

Subnet mask: 255.255.255.0

Default gateway: 192.168.1.1

DNS: 192.168.1.7

The engineer can successfully ping the local IP address and the default gateway address. Which of the following should be the next troubleshooting step?

- A. Check for duplicate IP addresses
 - B. Replace the Ethernet cable
 - C. Check the DNS configuration
 - D. Replace the cable modem
-

The Answer: C. Check the DNS configuration

One of the most noticeable IP (Internet Protocol) configuration settings was the DNS (Domain Name Service) server IP address set to the same IP address as the local device. Since DNS servers are commonly separate devices, it would be unusual to see a DNS configured with the same IP address as the local device. The next step should be to confirm the DNS settings with the local network administrator.

The incorrect answers:

A. Check for duplicate IP addresses

No mention was made of a duplicate IP address warning, and the ping tests worked properly to devices on the local subnet.

B. Replace the Ethernet cable

Since the ping tests worked locally, we can conclude that the Ethernet cable is most likely not related to this issue.

D. Replace the cable modem

The cable modem is most likely the default gateway, and a ping of that IP address worked properly. More tests would need to be performed before replacing any hardware.



More information:

220-1201, Objective 2.6 - IPv4 and IPv6

<https://professormesser.link/1201020601>

- A55.** A user in a remote office is connecting a device using an F-connector. Which of the following would be most likely associated with this connection?
- A.** Cable modem
 - B.** Switch
 - C.** Punchdown block
 - D.** DSL modem
-

The Answer: **A.** Cable modem

A cable modem is commonly associated with a coaxial cable input using an F-connector. The output from the cable modem commonly uses an RJ45 Ethernet connector.

The incorrect answers:

B. Switch

A switch is usually associated with Ethernet connections, and Ethernet commonly uses RJ45 connectors and not F-connectors.

C. Punchdown block

A punchdown block is often used instead of connectors, and individual wires will be physically pressed or "punched" into the block. A punchdown block is not commonly associated with F-connectors.

D. DSL modem

A DSL (Digital Subscriber Line) modem uses POTS (Plain Old Telephone Service) with RJ11 connectors to provide connectivity to the Internet service provider. A DSL modem does not commonly include F-connector interfaces.



More information:

220-1201, Objective 3.2 - Copper Connectors

<https://professormesser.link/1201030208>

A56. A user in the accounting department has turned on their computer and received the message “Date and Time not set.” Which of the following would be the most likely reason for this message?

- A.** The motherboard battery has discharged
 - B.** Windows update has rebooted the computer
 - C.** Daylight Saving Time occurred during the weekend
 - D.** The BIOS was just upgraded
-

The Answer: **A.** The motherboard battery has discharged

The battery on a motherboard is used to maintain the date and time configuration when the computer is not connected to a power source. If the battery has discharged, the computer will not be able to maintain the proper time and an error message will appear during startup.

The incorrect answers:

B. Windows update has rebooted the computer

Rebooting the computer will not cause the date and time to be reset.

C. Daylight Saving Time occurred during the weekend

Daylight Saving Time does not cause the computer's date and time to be reset, and any changes to the clock in Windows will be reflected in the BIOS.

D. The BIOS was just upgraded

A BIOS upgrade does not commonly reset the date and time on the system clock.



More information:

220-1201, Objective 5.1 - Troubleshooting Hardware

<https://professormesser.link/1201050101>

A57. A user in the accounting department is connecting to their monitor using HDMI. The video appears normal, but the user does not hear any audio through the monitor's speakers. Which of the following would be the two most likely reasons for this audio issue? (Select TWO)

- A.** Video output does not match the native resolution
 - B.** Audio controls are muted
 - C.** Not enough bandwidth for audio
 - D.** Internet connectivity is unavailable
 - E.** OS is not configured for HDMI audio output
 - F.** Display has a dead pixel
-

The Answers: **B.** Audio controls are muted, and

E. OS is not configured for HDMI audio output

If the audio controls are muted, then no audio will be heard on any output device. The muted controls may be on the monitor or the operating system, so both will need to be checked during the troubleshooting process.

The operating system will also need to be configured with the correct audio output location, and in this example the audio output should be configured for the HDMI (High-Definition Multimedia Interface) link.

The incorrect answers:

A. Video output does not match the native resolution

To get the sharpest image, the output from the computer should match the native resolution of the LCD (Liquid Crystal Display) monitor.

However, this configuration setting does not disable or prevent the audio output.

C. Not enough bandwidth for audio

The HDMI connection has dedicated bandwidth for audio, so the audio signal will always be available to the monitor.

D. Internet connectivity is unavailable

The network connectivity from the computer does not have any impact on the monitor's ability to play audio.

F. Display has a dead pixel

A dead pixel on the display will always show as a blank dot, even if the rest of the monitor is showing a white page. However, this visual issue does not cause any problems with the audio output over HDMI.



More information:

220-1201, Objective 5.3 - Troubleshooting Display Issues



<https://professormesser.link/1201050301>

- A58.** A system administrator has created a cloud configuration which automatically monitors utilization for usage-based billing. Which of the following describes this cloud computing characteristic?
- A.** Metered
 - B.** File synchronization
 - C.** Elasticity
 - D.** Availability
-

The Answer: **A.** Metered

Metering will measure transaction activity, CPU utilization, storage use, and other important metrics. These are often used for billing purposes, where the customer will pay for CPU or storage by the application instance. However, this metering does not automatically add or remove instances.

The incorrect answers:

B. File synchronization

File synchronization keeps all shared data identical between multiple application instances, but synchronizing the data doesn't add or remove resources from the application instance.

C. Elasticity

Elasticity is the characteristic of scaling up or down cloud resources with demand. More resources will be made available during busy times, and those resources will be seamlessly removed when the demand is low.

D. Availability

Many cloud implementations will have methods for maintaining uptime and availability if an outage occurs. This redundancy doesn't provide a method of dynamically increasing or decreasing the available application instance resources.



More information:

220-1201, Objective 4.2 - Cloud Characteristics

<https://professormesser.link/1201040202>

A59. A group of wireless laptops in a conference room are reporting intermittent connectivity issues. The wired computers in the room are not experiencing any network problems. A check of the laptops shows the IP addresses and configurations appear to be correct. Which of the following would be the best next troubleshooting step?

- A.** Verify the wireless signal strength
 - B.** Check the ARP table on the default gateway
 - C.** Confirm the operation of the DHCP server
 - D.** Perform a wire map on the network drops
-

The Answer: **A.** Verify the wireless signal strength

Since the wired devices are working properly, the troubleshooting process should focus on the wireless network. The connectivity is also intermittent, which means that the network is operating normally during certain periods. This would move the focus from the network configuration to a connectivity or signal strength issue.

The incorrect answers:

B. Check the ARP table on the default gateway

Since the wired devices are working normally and the network is intermittently working, the overall configuration of the network would not be the first place to start the troubleshooting process.

C. Confirm the operation of the DHCP server

An inoperable DHCP (Dynamic Host Configuration Protocol) server would cause the local devices to automatically configure a link-local IP address. Since there are no reports beyond general connectivity issues and DHCP server outages are relatively unusual, checking on the DHCP server would not be the next step in the troubleshooting process.

D. Perform a wire map on the network drops

The issue reported in this scenario is relating to the wireless network only. The wired devices are not experiencing any issues with connectivity, so obtaining a wire map would not be the next troubleshooting step.



More information:

220-1201, Objective 5.5 - Troubleshooting Networks

<https://professormesser.link/1201050501>

A60. A server administrator has been asked to troubleshoot a system which has been slowing down over time. While examining the computer, the administrator can hear a series of clicks from the inside of the case. Which of the following should be the first step to address this issue?

- A. Replace the motherboard
 - B. Power the system off and back on
 - C. Replace the hard drive
 - D. Perform a full backup of the server
 - E. Replace the power supply
-

The Answer: D. Perform a full backup of the server

A clicking noise indicates some type of hardware issue with the computer, so the first step would be to confirm that a recent backup is available for all of the data on this system. If the computer fails completely, at least the data will be secure.

The incorrect answers:

A. Replace the motherboard

Motherboards don't tend to have moving parts, so a clicking noise would probably not be related to the motherboard. There's also not enough information to definitively identify the source of the noise, so replacing hardware would not commonly be the first step.

B. Power the system off and back on

Although software can often be corrected with a reset, hardware isn't commonly fixed with a power cycle. Before making any changes, it would be useful to confirm a good backup exists and perform more investigation regarding the noise.

C. Replace the hard drive

If the sound was related to a problem with the hard drive, it would be even more important to have a good backup of the data.

E. Replace the power supply

There's no evidence that the power supply is faulty, but it would be useful to investigate the source of the noise after backing up the data.



More information:

220-1201, Objective 5.2 - Troubleshooting Storage Devices

<https://professormesser.link/1201050201>

A61. When pressing the power button on a desktop computer, the power indicator lights up but the computer does not display any message on the screen. The voltage at the wall outlet has been checked and it appears to be normal. The motherboard power connector voltage was checked, and the 12 volt pin was showing 6 volts. What is the most likely cause of this issue?

- A. The components using 12 volt power are faulty
 - B. The power supply is faulty
 - C. The wall outlet voltage does not match the power supply
 - D. The motherboard is faulty
-

The Answer: B. The power supply is faulty

If the 12 volt line from the power supply to the motherboard is showing 6 volts, it's likely a problem with the power supply itself. A power supply replacement should be the next troubleshooting step for this system.

The incorrect answers:

A. The components that use 12 volt power are faulty

Even if the components are faulty, the power supply should still be providing 12 volts for those devices.

C. The wall outlet voltage does not match the power supply

Many power supplies can automatically switch to the correct input voltage from the wall outlet. A mismatch would result in a non-working system or damage to the computer's components.

D. The motherboard is faulty

A bad motherboard would not prevent the power supply from operating at the correct voltage.



More information:

220-1201, Objective 3.6 - Power

<https://professormesser.link/1201030601>

A62. A manager would like print jobs sent to a network laser printer to use paper from the third tray. However, no tray options are listed when submitting the print job. Which of the following would resolve this issue?

- A.** Restart the printer
 - B.** Update the printer driver
 - C.** Stop and restart the print server
 - D.** Change the printer permissions
-

The Answer: **B.** Update the printer driver

The printer driver contains information about the printer, available printing configurations, and a list of trays to use for the print job. The printer driver determines if these configurations will appear on a user's print options.

The incorrect answers:

A. Restart the printer

Restarting the printer can reconnect the printer to the print server and clear out the memory of the printer. However, the tray configuration option isn't part of the printer and won't change based on a printer restart.

C. Stop and restart the print server

The print server accepts print jobs and queues them for the printing process. If no jobs are printing, then restarting the print server might be a good troubleshooting step. However, the print server does not determine what options are shown when submitting a print job.

D. Change the printer permissions

The permissions associated with a networked printer can allow or prevent access from other devices. The available print trays are not managed through the printer permissions.



More information:

220-1201, Objective 5.6 - Troubleshooting Printers

<https://professormesser.link/1201050601>

A63. A remote user is visiting their corporate office. They have connected their laptop to the wireless network, but the corporate Internet access is performing much slower than their remote site network. Which of the following would be the most likely reason for this issue?

- A. The default gateway is incorrect
 - B. The laptop has been assigned an APIPA address
 - C. The user does not have permission to use the wireless network
 - D. There is interference with the wireless signal
-

The Answer: D. There is interference with the wireless signal

Poor performance can be caused by many different variables, but the only choice which would cause a performance problem is interference. A disruption to the wireless signal could potentially cause slowdowns and disconnections for anyone using the wireless network.

The incorrect answers:

A. The default gateway is incorrect

An incorrect default gateway configuration would prevent access to remote networks, including all access to the Internet. The reported issue is related to slow performance to the Internet, so the default gateway would therefore be correctly configured.

B. The laptop has been assigned an APIPA address

APIPA (Automatic Private IP Addressing) is an automated method of assigning IP addresses when a DHCP server is not available. An APIPA address would limit all network traffic to the local subnet and Internet access would not be available.

C. The user does not have permission to use the wireless network

The wireless authentication process occurs after a device has attempted to connect to the wireless network. An authentication issue would not cause the network to perform slowly.



More information:

220-1201, Objective 5.5 - Troubleshooting Networks

<https://professormesser.link/1201050501>

A64. Which of the following would best describe the use of a port replicator?

- A. Increase the number of available USB interfaces
 - B. Extend the length of an HDMI cable
 - C. Send a copy of network frames to a protocol analyzer
 - D. Maintain a redundant array of storage drives
-

The Answer: A. Increase the number of available USB interfaces

A port replicator is used to increase or duplicate interfaces on a device. Port replicators usually connect to a computer using USB and provide numerous USB, video, flash card, and other assorted interfaces.

The incorrect answers:

B. Extend the length of an HDMI cable

A port replicator may include an HDMI interface, but it doesn't extend the length of an existing HDMI connection.

C. Send a copy of network frames to a protocol analyzer

A network tap is a physical device used to sit in the middle of a connection and direct copies of network frames to a protocol analyzer or similar device.

D. Maintain a redundant array of storage drives

A hardware-based RAID array requires a specialized storage adapter or interface card. A port replicator does not contain the hardware necessary to configure a RAID array.



More information:

220-1201, Objective 1.2 - Mobile Device Accessories



<https://professormesser.link/1201010202>

A65. A user is reporting a shared laser printer in the marketing department is not printing from one particular application. The front panel of the printer shows the printer is online and ready to receive print jobs. Other users in the department are able to successfully print to the printer. Which of the following would be the best next troubleshooting step?

- A.** Power cycle the printer
 - B.** Restart the print spooler
 - C.** Perform a test print from the printer console
 - D.** Verify the network printer name in the application
-

The Answer: **D.** Verify the network printer name in the application
We know that the printer is working normally because other people are able to print successfully. This also means that the spooling process is working and the print server is successfully queuing the print jobs. Given the other options, it's most likely that the user is directing the print job to a different printer.

The incorrect answers:

A. Power cycle the printer

We know the printer is working for other users, so power cycling the printer would not resolve this particular issue.

B. Restart the print spooler

Other users are printing to the network printer, so we know the print spooler is working properly. Restarting the spooler would not resolve this issue.

C. Perform a test print from the printer console

A test print from the printer console would verify that the printer itself is working properly, but we already know this because of the print jobs sent by other users on the network.



More information:

220-1201, Objective 5.6 - Troubleshooting Printers

<https://professormesser.link/1201050601>

A66. A network administrator is connecting four company locations in different countries. Which of the following would best describe this configuration?

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

The Answer: D. WAN

A WAN (Wide Area Network) connects LANs across a long geographical distance. Once the link extends past the local city area, the connection would be considered a WAN link.

The incorrect answers:

A. LAN

LANs (Local Area Networks) are located in the same building or group of buildings located nearby. Ethernet and 802.11 wireless networks are generally considered to be LAN connections.

B. PAN

A private network designed for an individual is a PAN (Personal Area Network). Bluetooth, infrared, and near field communication links are categorized as PAN connections.

C. MAN

A local network provider can sometimes connect sites in the same city. These connections would be MANs (Metropolitan Area Networks).



More information:

220-1201, Objective 2.7 - Network Types

<https://professormesser.link/1201020702>

A67. A system administrator has received a report of customers receiving email messages from the company, but upon further analysis the administrator finds the messages were not actually sent by the corporation. Which of the following should be implemented to prevent these spoofed email messages?

- A.** Add multi-factor authentication to all email logins
 - B.** Change the passwords on all email accounts
 - C.** Configure an SPF record in the DNS
 - D.** Modify the firewall rules to prevent outgoing emails
-

The Answer: **C.** Configure an SPF record in the DNS

An SPF (Sender Policy Framework) record in the DNS (Domain Name System) server provides a list of all servers authorized to send emails for a domain. Any emails not originating from an authorized source can be dismissed as unauthorized or invalid.

The incorrect answers:

A. Add multi-factor authentication to all email logins

The spoofed email messages did not originate from the corporate network, so modifying the authentication process would not prevent customers from receiving spoofed email messages.

B. Change the passwords on all email accounts

Since the email messages did not originate from a corporate account, changing the passwords would not prevent the spoofed emails.

D. Modify the firewall rules to prevent outgoing emails

The spoofed email messages were sent from a different network, so modifying the corporate firewall would not block any email spoofing.



More information:

220-1201, Objective 2.4 - DNS Configuration

<https://professormesser.link/1201020401>

A68. A system administrator has configured a VM for dual processors, 16 GB of RAM, and 120 GB of disk space. Which of the following is required to start this VM?

- A.** Shared network address
 - B.** Hypervisor
 - C.** Virtual switch
 - D.** Video display
-

The Answer: **B.** Hypervisor

A hypervisor, or virtual machine manager, is the software that manages the virtual platform and guest operating systems.

The incorrect answers:

A. Shared network address

There are many options for a virtual machine, including shared, bridged, and private network addresses. A shared network address is not required to start a virtual machine.

C. Virtual switch

Like physical switches, virtual switches can be used to provide connectivity and segmentation for virtual machines. A virtual switch is not a requirement to start or use a virtual machine

D. Video display

Many servers operate without a video display, mouse, or keyboard. These systems are "headless," and a video display is not required to start a virtual machine.



More information:

220-1201, Objective 4.1 - Virtualization Services

<https://professormesser.link/1201040102>

A69. A site manager has noticed her smartphone has a short battery life when used at work, and the battery life is normal when working from home. The work location has limited mobile service reception, but most office services are provided over the local 802.11 Wi-Fi network. The site manager does not enable Bluetooth on her smartphone. Which of the following would be the best way to extend the battery life of her mobile device?

- A.** Disable 802.11 Wi-Fi
 - B.** Disable the cellular radio at work
 - C.** Replace the battery
 - D.** Enable Bluetooth on the mobile device
-

The Answer: **B.** Disable the cellular radio at work

When a mobile provider's network isn't available, a phone will constantly try to find and reconnect to a cellular network. This reconnection process constantly uses the radio, and subsequently more of the battery is used in the process. To conserve battery life, it would be useful to disable the cellular network connection when outside of a coverage area.

The incorrect answers:

A. Disable 802.11 Wi-Fi

The Wi-Fi network is used at work for office services, so disabling Wi-Fi is not a good option. Since Wi-Fi does not require a constant connection, it's unlikely that the battery usage is associated with the Wi-Fi radio.

C. Replace the battery

It's possible that the battery in the mobile device could need replacing, but the battery problem doesn't appear to happen while at home. If the battery was the primary issue, the battery would work just as poorly at home as the office.

D. Enable Bluetooth on the mobile device

Enabling a feature like the Bluetooth radio would increase battery usage. If the battery is the biggest concern and no Bluetooth features are in use, it's a better idea to keep Bluetooth disabled.



More information:

220-1201, Objective 5.4 - Troubleshooting Mobile Devices

<https://professormesser.link/1201050401>

A70. A desktop computer has just abruptly shut off, and pressing the power button doesn't restart the system. There are no fans spinning, no lights are on, and no messages appear on the display. Which of these would be the most likely cause of this issue?

- A.** The BIOS is configured with a startup password
 - B.** The LCD display backlight has failed
 - C.** The power supply is faulty
 - D.** The master boot record is corrupted
 - E.** The boot sector is missing
-

The Answer: **C.** The power supply is faulty

A faulty power supply could cause a loss of power across all computer systems, and the lack of fans, lights, and output on the display would be the most likely cause given the available options.

The incorrect answers:

A. The BIOS is configured with a startup password

A startup password would not cause the system to power down, and the password prompt would be presented if the computer was powering on.

B. The LCD display backlight has failed

A failure of the LCD backlight would make it appear the screen is not working, but the fans and lights would still be working normally.

D. The master boot record is corrupted

A corrupted master boot record may prevent a system from booting, but the fans, lights, and screen output would still be working properly.

E. The boot sector is missing

A missing boot sector would not prevent the fans and lights from working properly. The screen would commonly show an error explaining that an operating system was not able to properly start.



More information:

220-1201, Objective 5.1 - Troubleshooting Hardware

<https://professormesser.link/1201050101>

A71. What kind of device is commonly used to filter traffic based on a predefined set of rules?

- A. PoE switch
 - B. ONT
 - C. DSL modem
 - D. Firewall
-

The Answer: D. Firewall

A firewall is designed to evaluate inbound traffic, compare that traffic to predefined security policies, and allow or block that traffic from passing through the firewall. Firewalls are common security appliances between an organization's internal network and the Internet.

The incorrect answers:

A. PoE Switch

PoE (Power over Ethernet) switches are used to provide power to Ethernet-connected devices. This allows devices such as access points, security cameras, and VoIP phones to connect with a single Ethernet link for both data connectivity and device power.

B. ONT

An ONT (Optical Network Terminal) is a device commonly used to convert between a network provider's fiber connection to a customer's copper network. The ONT does not generally provide any filtering or access restrictions.

C. DSL modem

DSL (Digital Subscriber Line) is a common Internet connection technology provided over the same twisted pair copper used by analog telephone services. A DSL modem allows the end-user to connect their existing network to the DSL network, but the DSL modem does not filter traffic based on a set of access rules.



More information:

220-1201, Objective 2.5 - Network Devices

<https://professormesser.link/1201020501>

A72. Which of these connection types are commonly delivered using coax to provide Internet data, voice, and video over the same wire?

- A. DSL
 - B. Cable broadband
 - C. ONT
 - D. PoE
-

The Answer: B. Cable broadband

Cable television brought video into everyone's home, and now voice and Internet services are included on the same coax cable.

The incorrect answers:

A. DSL

DSL (Digital Subscriber Line) uses a pair of copper wires to provide Internet access over the same connection as a traditional telephone service.

C. ONT

An ONT (Optical Network Terminal) is a demarcation point commonly used for fiber to the premises. Although the ONT may include a coax connection for television, the ONT itself does not commonly combine voice, video, and Internet over coax.

D. PoE

PoE (Power over Ethernet) is a convenient way to provide a power source for a device without connecting to a power outlet. PoE does not provide any consolidation of services over coax cable, however.



More information:

220-1201, Objective 2.7 - Internet Connection Types

<https://professormesser.link/1201020701>

A73. A manager's smartphone will normally update applications automatically, but the update app doesn't show any new upgrades in over two weeks. Which of the following would be the most likely reason for this issue?

- A.** The digitizer is damaged
 - B.** The battery is swollen
 - C.** Storage space is low
 - D.** Bluetooth is disabled
-

The Answer: **C.** Storage space is low

An operating system needs enough available storage space to download, uncompress, and install a new version of an app. If storage space is slow, the upgrade process cannot proceed due to this lack of space.

The incorrect answers:

A. The digitizer is damaged

The digitizer is associated with screen input through the use of fingers or a stylus. A damaged stylus might not allow direct input to the system, but it wouldn't prevent any apps from updating.

B. The battery is swollen

A swollen battery is a safety concern, and even if the system continues to operate the battery would need to be replaced. A swollen battery would be a very obvious physical issue, but it would not cause problems with the automated update process.

D. Bluetooth is disabled

Bluetooth is not used during the app upgrade process. Disabling Bluetooth might prevent the use of wireless headphone or headsets, but it wouldn't prevent the upgrade process from working normally.



More information:

220-1201, Objective 5.4 - Troubleshooting Mobile Devices
<https://professormesser.link/1201050401>

- A74.** A user is pairing a Bluetooth headset to their smartphone. What type of security is used during the pairing process to authorize this connection?
- A.** 802.1X
 - B.** Client certificate
 - C.** Pre-shared key
 - D.** PIN
 - E.** Username and password
-

The Answer: D. PIN

A PIN (Personal Identification Number) is used to validate the device connecting during the Bluetooth pairing process. This authorization prevents a third-party from connecting to a smartphone or tablet without permission.

The incorrect answers:

A. 802.1X

802.1X is a standard for port-based network access control (NAC). This is commonly used for network authentication, but it is not part of the Bluetooth pairing process.

B. Client certificate

Adding a client certificate to a device can help with an authentication process, but a client certificate is not used when pairing a Bluetooth accessory.

C. Pre-shared key

A pre-shared key is a passphrase two devices can use to validate the authentication process. These are commonly used with private wireless networks, but they are not part of the Bluetooth pairing process.

E. Username and password

A username and password are some of the most common ways to provide authentication, but the Bluetooth pairing process does not use usernames or passwords.



More information:

220-1201, Objective 1.3 - Mobile Device Networks

<https://professormesser.link/1201010301>

A75. A company is deploying cloud-hosted virtual desktops for training room classes. The VMs have already been configured in the cloud. Which of the following is required to access these VMs using thin clients in the training room?

- A.** High-end video cards
 - B.** Separate Internet connection
 - C.** Mouse, keyboard, and monitor
 - D.** Category 6A cabling
-

The Answer: **C.** Mouse, keyboard, and monitor

Cloud-hosted virtual desktops are a type of VDI (Virtual Desktop Infrastructure). Access to the desktop is provided over a remote access-style client, and access can be provided from almost any operating system using a low-bandwidth network connection. The client device is usually a thin-client that has a minimum set of resources, a mouse, keyboard, and a monitor.

The incorrect answers:

A. High-end video cards

Cloud-based virtual desktops are being processed on servers in the cloud, so the local thin clients do not require any advanced graphics capabilities.

B. Separate Internet connection

The communication to the virtual desktops is sending video, keyboard, and mouse updates, and all of this can operate with a minimum of network bandwidth. A separate or dedicated Internet connection is not required.

D. Category 6A cabling

Category 6A cabling would commonly be associated with high-speed 10 gigabit per second Ethernet networking. A thin client communicating to a cloud-hosted virtual desktop can operate at relatively low bandwidths.



More information:

220-1201, Objective 4.1 - Virtualization Services

<https://professormesser.link/1201040102>

A76. A technician has connected a laptop to an LCD. The LCD is displaying the correct information, but all of the content appears to be fuzzy and difficult to read. Which of the following is the most likely reason for this issue?

- A.** The LCD display is faulty
 - B.** The laptop display adapter is incompatible with the LCD display
 - C.** The laptop resolution is incorrect
 - D.** The LCD display cable is faulty
-

The Answer: **C.** The laptop resolution is incorrect

An LCD (Liquid Crystal Display) has a native resolution based on the physical dimensions of the display. If the resolution settings in the operating system don't match the native resolution of the physical display, the information on the screen may appear blurry or distorted. Matching the native resolution in the operating system will resolve this issue.

The incorrect answers:

A. The LCD display is faulty

If the LCD display is showing information (however skewed), then it may not be a hardware failure. Adjusting the operating system's video settings to match the LCD display hardware will often resolve any odd visual display quirks.

B. The laptop display adapter is incompatible with the LCD display

Most display adapters will include a video output format that is compatible with most LCD displays. It would be unusual to find an LCD display that would not operate with a specific video adapter.

D. The LCD display cable is faulty

A bad cable will commonly show flashes of information or intermittent periods of a black screen. A bad cable would not commonly display information in a fuzzy or skewed format.



More information:

220-1201, Objective 5.3 - Troubleshooting Display Issues

<https://professormesser.link/1201050301>

A77. An engineering firm is upgrading their storage array to include additional drive space for documents and designs. The primary goal is to provide high performance and uptime, even if two drives were to fail. Which of the following would be the best choice for this firm?

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

The Answer: D. RAID 10

RAID (Redundant Array of Independent Disks) is a method of combining storage drives together to add speed and/or redundancy. A RAID 10 array is a nested RAID configuration that creates a mirrored set of RAID 0 drives. As long as only one drive fails in each RAID 0 mirror, the redundancy will remain valid and the user's data will continue to be available.

The incorrect answers:

A. RAID 1

RAID 1 is also called mirroring, because file blocks are duplicated between two or more physical drives. Losing a single drive in a RAID 1 array will still allow access to the data on the other mirrored drive, but losing two drives would cause the data to be inaccessible.

B. RAID 5

RAID 5 is striping with parity, where file blocks are striped across multiple storage drives and one storage drive maintains parity data. Data would still be available after a single drive failure in RAID 5, but two failed drives would cause data loss.

C. RAID 0

RAID 0 is also called striping, where file blocks are split across multiple physical drives. However, RAID 0 does not include any redundancy features. A single drive failure in RAID 0 results in data loss.



More information:

220-1201, Objective 3.4 - RAID

<https://professormesser.link/1201030402>

A78. The installation parameters for an access point specify a configuration option for 40 MHz. Which of the following best describes this configuration option?

- A.** Bandwidth
 - B.** Channel
 - C.** Category
 - D.** Frequency
 - E.** 802.11 standard
-

The Answer: **A.** Bandwidth

The bandwidth describes how much of the frequency range will be used when transmitting or receiving information. Generally speaking, larger bandwidths allow for faster data transfers.

The incorrect answers:

B. Channel

802.11 wireless channels are generally numbered between 1 and 233, and additional channels will be added as newer 802.11 standards are ratified.

C. Category

In networking, a category is usually referenced as a standard of copper cabling. Cable categories are not generally associated with wireless network bandwidth values.

D. Frequency

802.11 wireless frequencies are usually found in the 2.4 GHz, 5 GHz, and 6 GHz frequency bands. A value as small as 40 MHz would not be associated with an 802.11 frequency.

E. 802.11 standard

802.11 standards are usually referenced with a letter, such as 802.11n, 802.11ac, or 802.11ax. The 802.11 standards do not use megahertz as an identification method.



More information:

220-1201, Objective 2.2 - Wireless Network Technologies

<https://professormesser.link/1201020201>

A79. A company needs to purchase a new printer for an open work area. The primary requirement of this printer is to be as quiet as possible. Which of these printer types would be the best fit for this requirement?

- A.** Dot-matrix
 - B.** Inkjet
 - C.** Laser
 - D.** Thermal
-

The Answer: **D.** Thermal

Of the available options, thermal printers are the quietest. The only moving parts in a thermal printer are the motors that push the paper through the printer, and those motors are small and run almost silently.

The incorrect answers:

A. Dot-matrix

Dot matrix printers are probably the loudest option in this list. The metal pins in a dot matrix print head are impacting the page, and that printing process makes a significant amount of noise.

B. Inkjet

An inkjet printer's printing process is a bit quieter than a dot matrix printer, but it's not as quiet as thermal printing. The sound of the carriage moving the print heads across the page and the printing process itself would not provide the quietest printing option given the available options.

C. Laser

A laser printer uses many moving parts, high voltages, and a large motor to print a single page. This process makes more noise than a thermal printer, so it wouldn't fit the requirements.



More information:

220-1201, Objective 3.8 - Thermal Printers

<https://professormesser.link/1201030805>

A80. A user in the marketing department would like to use a stylus to provide input through an external digitizer. Which of the following would be the best choice for this requirement?

- A.** LCD touchscreen
 - B.** Port replicator
 - C.** Wireless mouse
 - D.** Drawing pad
-

The Answer: **D.** Drawing pad

A drawing pad connects to a desktop or laptop computer to provide very precise input using a digitizer and stylus.

The incorrect answers:

A. LCD touchscreen

An LCD touchscreen is integrated into the display and uses fingers as the input method.

B. Port replicator

A port replicator is used in conjunction with a laptop to provide a quick and easy way to connect and disconnect from external peripherals. A port replicator does not provide any type of input function with a stylus.

C. Wireless mouse

A wireless mouse is a common input device, but it does not provide any input functionality with a stylus.



More information:

220-1201, Objective 1.2 - Mobile Device Accessories

<https://professormesser.link/1201010202>

A81. A company has designed a platform to scale up when the application use increases during the day, and scale back down at night. Which of the following best describes this characteristic of cloud computing?

- A.** Resource pooling
 - B.** Measured service
 - C.** Hybrid
 - D.** Elasticity
-

The Answer: **D.** Elasticity

Scaling up and down as needed is a significant characteristic of cloud computing. This allows organizations to manage and pay for resources when busy, but save time and money when the resources are no longer needed.

The incorrect answers:

A. Resource pooling

To provide elasticity, there should be plenty of resources available when needed. Resource pooling puts all of the computing power in one place, and portions of the pool can be distributed as-needed.

B. Measured service

Tracking costs and utilization is useful for tracking and billing, and a measured service provides a way to monitor and view the use of cloud-based resources.

C. Hybrid

A hybrid cloud model combines both public and private clouds together. The hybrid cloud does not describe the scalability of these cloud deployment models.



More information:

220-1201, Objective 4.2 - Cloud Characteristics

<https://professormesser.link/1201040202>

A82. A user's tablet has stopped responding to any type of finger input on the screen. The clock and other tablet functions appear to be working. Which of the following would be the best way to correct this issue?

- A.** Replace the screen
 - B.** Reset the wireless network
 - C.** Connect to a power source
 - D.** Restart the tablet
-

The Answer: **D.** Restart the tablet

Before making any changes to hardware or software, it's useful to restart the tablet to see if a software glitch may have been the underlying issue.

The incorrect answers:

A. Replace the screen

Without running additional tests, it's impossible to know if the screen is actually the issue. Before switching out any hardware, it's useful to restart the system and run some hardware diagnostics.

B. Reset the wireless network

The wireless network would not have any impact on the screen digitizer. If the tablet was experiencing network issues, then resetting the wireless network may resolve any problems.

C. Connect to a power source

A tablet will continue to provide input to the digitizer, even in situations of low battery life. Connecting to a power source would not be a common solution for this issue.



More information:

220-1201, Objective 5.4 - Troubleshooting Mobile Devices

<https://professormesser.link/1201050401>

A83. A system administrator needs a secure method of storing encryption keys.
Which of the following would be the best choice for this requirement?

- A.** BIOS
 - B.** Secure Boot
 - C.** NTFS
 - D.** HSM
-

The Answer: D. HSM

An HSM (Hardware Security Module) is commonly used as a secure method of key backup. The HSM can be deployed as a standalone server or in a lightweight form with Smart Cards or USB keys.

The incorrect answers:

A. BIOS

A computer's BIOS (Basic Input-Output System) is the software used during the startup process of a computer. The BIOS does not provide a method of securely storing cryptographic keys.

B. Secure Boot

Secure Boot is a UEFI (Unified Extensible Firmware Interface) BIOS feature used to protect against any unauthorized changes to the BIOS or operating system.

C. NTFS

The NTFS (New Technology File System) file system is the primary storage system used on Windows devices. Although NTFS can encrypt objects in the file system, it does not use that encryption as a secure key backup system.



More information:

220-1201, Objective 3.5 - TPM and HSM

<https://professormesser.link/1201030507>

A84. A server administrator is upgrading the memory in a web server from 16 GB of non-ECC RAM to 64 GB of ECC RAM. After starting the system with the new memory, the computer beeps and nothing is displayed on the screen. Changing the number and location of new RAM modules results in the same beeping sounds and blank screen. After replacing the original 16 GB modules, the system starts normally. Which of the following is the most likely reason for this issue?

- A.** The new memory is not compatible with the motherboard
 - B.** The new memory is faulty
 - C.** The BIOS needs to be updated
 - D.** The system is overheating during the startup process
-

The Answer: **A.** The new memory is not compatible with the motherboard
ECC (Error Correcting Code) memory is designed to detect errors and correct the errors on the fly. Not all systems use ECC memory, and it's important the memory match the motherboard requirements. If non-ECC RAM (Random Access Memory) is replaced with ECC RAM and the system fails to start, then the issue is most likely associated with the change from non-ECC to ECC RAM.

The incorrect answers:

B. The new memory is faulty

Although it's possible that the new RAM is faulty, the more likely and obvious issue is the switch from non-ECC to ECC memory. Before blaming the RAM, it would be useful to know what type of memory the motherboard is expecting.

C. The BIOS needs to be updated

Although a BIOS upgrade may be a rare upgrade requirement, the more obvious issue with this upgrade is related to the memory type.

D. The system is overheating during the startup process

It takes a bit of time to heat up the components inside of a computer, so a failure that occurs at startup is most likely not related to thermal or heat issues inside of the computer.



More information:

220-1201, Objective 3.3 - Memory Technologies

<https://professormesser.link/1201030302>

A85. A workstation has been assigned an APIPA address. Which of the following would be the most likely reason for this assignment?

- A.** The workstation is not connected to the wireless network
 - B.** The DNS server is misconfigured
 - C.** The network is using public Internet addresses
 - D.** The DHCP server is down
-

The Answer: **D.** The DHCP server is down

APIPA (Automatic Private IP Addressing) is an IPv4 (Internet Protocol version 4) link-local addressing scheme. If a device does not have a static IP address and an address is not available from a DHCP server, the local device will assign itself an APIPA address and communication to other APIPA devices on the same subnet will be available.

The incorrect answers:

A. The workstation is not connected to the wireless network

APIPA addresses are used for any IP connected device, regardless of the type of network in use.

B. The DNS server is misconfigured

APIPA addresses are related to the local IP address and the availability of a DHCP server. The DNS server is not involved in the assigning of an APIPA address.

C. The network is using public Internet addresses

Assigned APIPA addresses include the range between 169.254.1.0 and 169.254.254.255. These addresses are considered "link-local" addresses and can only communicate within the same local IP subnet. APIPA addresses are not routable and devices with an APIPA address cannot send or receive traffic to the Internet. APIPA addresses are not public Internet addresses.



More information:

220-1201, Objective 2.6 - Assigning IP Addresses

<https://professormesser.link/1201020602>

A86. Which of the following can be used to forward traffic based on a destination MAC address?

- A. Unmanaged switch
 - B. PoE injector
 - C. Router
 - D. Firewall
-

The Answer: A. Unmanaged switch

Switches determine how traffic is forwarded based on the destination MAC (Media Access Control) address in the frame. The qualification of managed or unmanaged is not important in this case, since both types of switches make forwarding decisions the same way. The difference between a managed and unmanaged switch are based on features not associated with the forwarding process.

The incorrect answers:

B. PoE injector

A PoE (Power over Ethernet) injector sits inline in an Ethernet link and adds voltage to support PoE devices at the end of the wire.

C. Router

A router makes forwarding decisions based on the destination IP (Internet Protocol) address of a packet.

D. Firewall

A firewall controls the flow of traffic based on a set of predefined security policies. If the traffic flow matches one of the policies, the firewall can be configured to allow or block that traffic flow.



More information:

220-1201, Objective 2.5 - Network Devices

<https://professormesser.link/1201020501>

A87. A system administrator made some BIOS changes to a desktop computer running Windows 11, and now this message appears when starting the computer:

“This drive can only boot in UEFI mode.”

Which of the following would be the BEST next troubleshooting step?

- A.** Modify the boot drive sequence
 - B.** Enable Secure Boot
 - C.** Remove the BIOS password
 - D.** Boot the system with the Windows setup media
-

The Answer: **B.** Enable Secure Boot

Secure Boot is part of the UEFI (Unified Extensible Firmware Interface) standard for a computer BIOS (Basic Input Output System). Secure Boot ensures that the underlying operating system has not been modified by malware or any other process.

The incorrect answers:

A. Modify the boot drive sequence

Changing the boot drive sequence in the BIOS would not resolve the UEFI or Security Boot process.

C. Remove the BIOS password

UEFI mode and Secure Boot do not require a boot or management password, and removing any of those passwords will not resolve the error message.

D. Boot the system with the Windows setup media

Booting with separate media would not resolve this issue when booting to the primary storage drive. UEFI mode with Secure Boot is required for this system.



More information:

220-1201, Objective 3.5 - BIOS Settings

<https://professormesser.link/1201030506>

A88. A new employee has been provided a corporate smartphone. After the initial login, all of the corporate email server configurations have been automatically installed and updated in real-time. Which of the following is providing this functionality?

- A.** ACL
 - B.** SSID
 - C.** SPICE
 - D.** MDM
-

The Answer: D. MDM

A corporate MDM (Mobile Device Manager) is used to manage and control all of the smartphones and tablets used by the organization. The manager of the MDM can also configure email server settings, security parameters, and almost any other aspect of the mobile device.

The incorrect answers:

A. ACL

An ACL (Access Control List) broadly describes a security control which can allow or deny an operating system feature, network communication, or any other data flow. An ACL is not used to configure app settings on a smartphone or any other mobile device.

B. SSID

An SSID (Service Set Identifier) is the technical name of a wireless network. An access point's SSID defines the name of the wireless network and this name is usually displayed in the list of available wireless networks. An SSID is not used to make configuration changes to apps.

C. SPICE

SPICE (Simple Protocol for Independent Computing Environments) is a remote access protocol commonly used with virtual environments. SPICE is not used to configure apps or configuration settings.



More information:

220-1201, Objective 1.3 - Mobile Device Management
<https://professormesser.link/1201010302>

A89. A technician is installing a DSL modem in a data center. Which of the following connectors would be used to connect the DSL modem to the Internet provider line?

- A. DB-9
 - B. RJ11
 - C. BNC
 - D. F-connector
-

The Answer: B. RJ11

The RJ11 connector (Registered Jack 11) is the modular connector commonly associated with analog POTS (Plain Old Telephone System) lines. Since DSL (Digital Subscriber Line) uses the existing telephone lines, the DSL connection from an Internet Service Provider will also use those same lines with RJ11 connectors. These connectors will be the same for residential, large-scale commercial, and SOHO (Small Office / Home Office) use.

The incorrect answers:

A. DB-9

DB-9 interfaces are associated with the transmission of serial data across a link. These are slower speed connections that are commonly used today to connect and manage infrastructure devices such as switches, routers, and firewalls. DB-9 interfaces are not used for DSL or any high-speed Internet connection.

C. Molex

A molex connector is a reference to the four-pin power connections provided by a desktop computer's power supply. Molex connectors are not used to provide network connectivity.

D. F-connector

The F-connector is the screw-on connector commonly used to attach cable television or cable modem coax connections. F-connectors are not used with twisted-pair copper DSL installations.



More information:

220-1201, Objective 3.2 - Copper Connectors

<https://professormesser.link/1201030208>

A90. Which of the following would be the BEST choice for capturing an image from a printed page and saving it on a computer?

- A. Print server
 - B. Optical drive
 - C. Flatbed scanner
 - D. Webcam
-

The Answer: C. Flatbed scanner

A flatbed scanner is designed to capture images from paper and convert them into digital form.

The incorrect answers:

A. Print server

A print server is software responsible for accepting print jobs from a computer and sending them to an available printer. Print servers are part of the printing process, and they do not provide any image capture functionality.

B. Optical drive

Optical drives can store digital information onto optical discs. These discs can then be read by laser beams on the appropriate optical drive.

D. Webcam

Webcams are designed to capture moving images and not printed pages.



More information:

220-1201, Objective 3.7 - Multifunction Devices

<https://professormesser.link/1201030701>

Practice Exam B

Performance-Based Questions

- B1.** Match the printer issue to the best troubleshooting task.
Not all troubleshooting options will be used:

Printer issues:

- Laser printer output is faded and difficult to read
- Every page printed on an inkjet printer is garbled text
- Almost every page jams inside of a network laser printer
- Five print jobs are sitting in the print queue and not printing
- The printer trays do not match the paper options in the application
- An inkjet printer outputs unwanted lines across the printed page

Troubleshooting options:

- A** Update the printer driver configuration
- B** Replace the fuser assembly
- C** Restart the print spooler
- D** Print a test page from the printer console
- E** Clean the pickup rollers
- F** Replace the toner cartridge
- G** Clean the print heads
- H** Change the page description language

Answer Page: **163**

B2. Match these interfaces with their name and the most common use:



Interface name

Common use



Interface name

Common use



Interface name

Common use



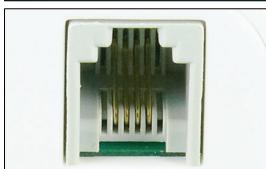
Interface name

Common use



Interface name

Common use



Interface name

Common use

Interfaces:

Molex

HDMI

SATA

DB-9

RJ11

F connector

Common uses:

Connect an SSD

Replace a DSL modem

Connect to a switch console

Install a cable modem

Add power for internal fans

Replace an external monitor

Answer Page: 165

B3. Choose the best network tool. Not all tools will be used.

Crimper

Cable stripper

Toner probe

Punchdown tool

Cable tester

Loopback plug

Network tap

Locate one cable inside of a
bundle of fifty cables

Verify the connected pins on
both sides of an Ethernet cable

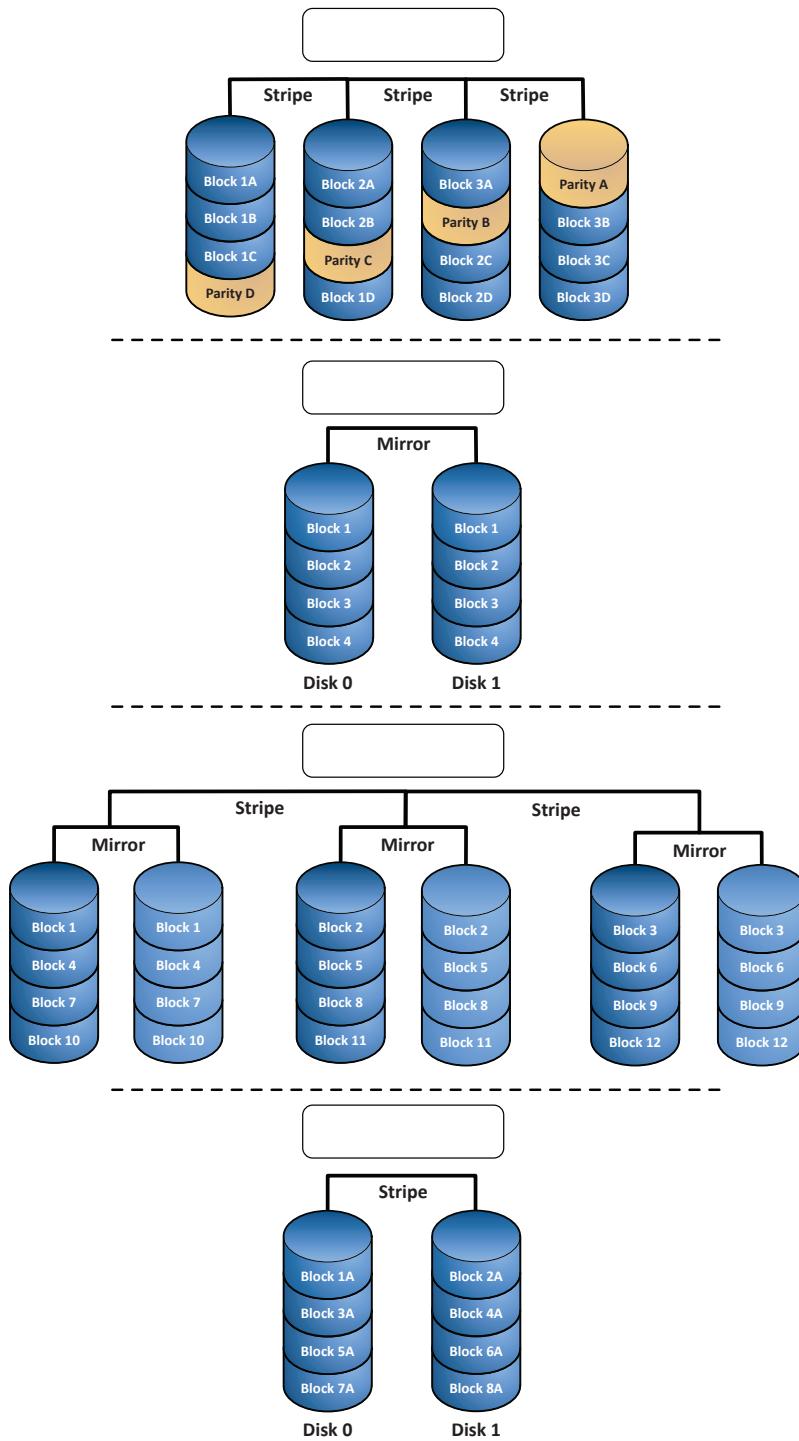
Fasten an RJ45 connector
to a Category 6 cable

Capture a network conversation
to measure bandwidth usage

Perform a diagnostic test
on a router interface

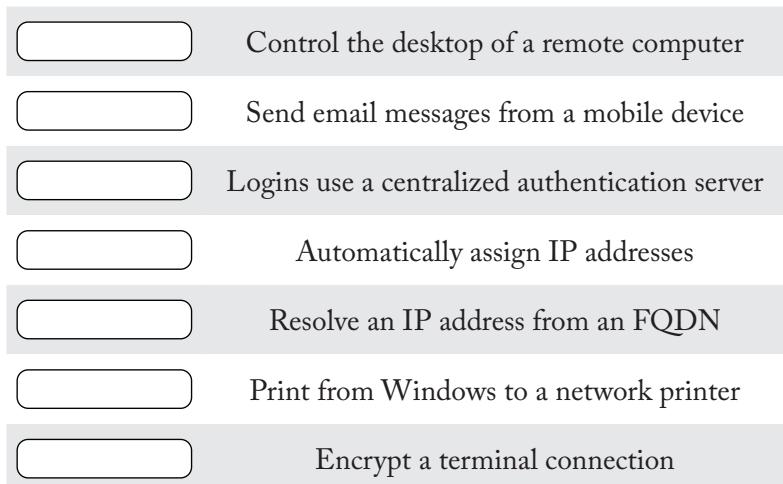
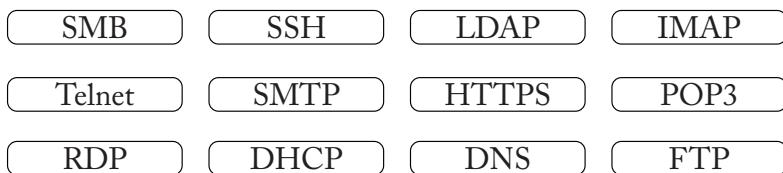
Answer Page: **167**

B4. Fill in the blank with the name of the RAID configuration:



B5. Match these network protocols to their description.

Not all protocols will be used.



Answer Page: **170**

Practice Exam B

Multiple Choice Questions

B6. A server administrator has four identical drives to install into a database server. Which of these RAID types would provide both redundancy and the most available storage space?

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

Quick
Answer: **161**

The Details: **173**

B7. A user is attempting to charge their iPhone, but the charging icon does not appear when connecting the charging cable. A working cable from another iPhone exhibits the same symptoms. Which of the following is the most likely reason for this issue?

- A.** The screen is locked
- B.** An iOS update is pending
- C.** The iPhone has low signal
- D.** The charging port is damaged

Quick
Answer: **161**

The Details: **174**

B8. A user in the marketing department needs an LCD with the best possible color representation. Which of the following would be the best choice for this requirement?

- A.** TN
- B.** CCFL
- C.** IPS
- D.** VA

Quick
Answer: **161**

The Details: **175**

B9. A company is receiving an increase in malware delivered to random employees through email attachments. Which of the following would be the best way to protect users against this malicious software?

- A.** Spam gateway
- B.** DHCP services
- C.** Syslog
- D.** VLANs

Quick
Answer: **161**

The Details: **176**

B10. A user has reported their tablet is not able to retrieve or send mail, browse the Internet, or connect to video conferences. Apps on the device which do not require connectivity are working as expected. Which of these would be the most likely cause of this issue?

- A.** Battery is very low
- B.** The Wi-Fi network is out of range
- C.** The touch screen needs calibration
- D.** The tablet is overheated

Quick
Answer: **161**

The Details: **177**

B11. A PC technician has been asked to replace the LCD on a touch-screen laptop computer. Which of the following would be the most important component to test after this replacement?

- A.** Digitizer
- B.** Keyboard
- C.** Audio controls
- D.** System memory

Quick
Answer: **161**

The Details: **178**

B12. The computers in the shipping department are receiving the message “No connectivity” on their computers. The ipconfig output on one of the computers provides this information:

IPv4 Address: 192.168.1.22
Subnet Mask: 255.255.255.0
Default Gateway: 192.168.1.1

From this device, a technician is able to successfully ping 127.0.0.1 and 192.168.1.22. The technician can also ping other devices in the shipping department, but cannot receive a ping response from servers in the data center or from the 192.168.1.1 address.

Which of these would be the most likely cause of this issue?

- A.** The DHCP server is down
- B.** The wireless network is experiencing interference
- C.** The local router is down
- D.** The Internet provider is experiencing an outage

Quick
Answer: **161**

The Details: **179**

B13. Which of the following would be the best way to activate the screen of a smartphone without physically touching the display?

- A. Trackpad
- B. Port replicator
- C. Smart card reader
- D. Stylus

Quick
Answer: **161**

The Details: **180**

B14. A graphics designer is working on a computer that powers itself off after about an hour of work. The computer tends to power down when working on complex designs that require extensive CPU utilization. Which of the following would be the most likely reason for this issue?

- A. The case fans are blocked
- B. The hard drive is failing
- C. The graphics software is corrupted
- D. A device driver is outdated

Quick
Answer: **161**

The Details: **181**

B15. Which of these services would be associated with a Windows file transfer?

- A. LDAP
- B. SMB
- C. IMAP
- D. SSH

Quick
Answer: **161**

The Details: **182**

B16. An administrator has installed a hypervisor on a server, but the administrator is not installing Windows or Linux. Which of the following would best describe this installation?

- A. VDI
- B. Containerization
- C. Hybrid cloud
- D. Type 1

Quick
Answer: **161**

The Details: **183**

- B17.** A technician is removing a cover from the bottom of a Windows laptop. Which of the following would be the most likely reason for this task?
- A. Replace the thermal paste
 - B. Reset the operating system
 - C. Connect an external display
 - D. Upgrade the memory
 - E. Add a stylus
- B18.** A company is using a cloud-based service that provides a hardware platform and no additional software. Which of these would best describe this purchase?
- A. SaaS
 - B. Hybrid
 - C. Metered
 - D. IaaS
- B19.** While working at their desk, a laptop user would like to use a full-size keyboard and external mouse. They would also like to connect to a monitor and wired network without connecting and disconnecting cables each time they leave the desk. Which of these would be the best way to provide this functionality?
- A. Use separate desktop and laptop computers
 - B. Install a docking station at the user's desk
 - C. Use a wireless access point at the user's desk
 - D. Install a USB hub for the laptop

Quick
Answer: **161**

The Details: **184**

Quick
Answer: **161**

The Details: **185**

B20. A server administrator needs to store gigabytes of server performance statistics for future analysis. The data needs to be always be available, even if a storage drive fails. Which of the following would be the best choice for this data?

- A.** Optical drive
- B.** Flash drive
- C.** RAID
- D.** DDR

Quick
Answer: **161**

The Details: **187**

B21. In which of the following would a cable with a DB-9 connector be used?

- A.** Attaching a mouse or keyboard to a desktop computer
- B.** Configuring a router
- C.** Connecting an external storage device
- D.** Attaching a video camera to a computer

Quick
Answer: **161**

The Details: **188**

B22. A workstation administrator is configuring a new system for graphics designers, and the users have requested the fastest possible storage speed for reading and writing data. Which of the following would be the best choice for this requirement?

- A.** 10 TB NAS
- B.** 8 TB HDD
- C.** 5 TB SAN
- D.** 2 TB SSD

Quick
Answer: **161**

The Details: **189**

B23. A user has connected a new laptop to an LCD projector in a conference room. About thirty minutes into the presentation, the projector light turns off but the projector fans continue to run. Which of the following would be the most likely reason for this issue?

- A.** Incorrect laptop cable
- B.** Poor projector airflow
- C.** Dead pixels
- D.** Incorrect resolution setting

Quick
Answer: **161**

The Details: **190**

- B24.** A marketing manager is printing a document on the company letterhead stored in one of the printer trays. However, the output is instead printed from a tray containing plain paper. Which of the following would be the best way to resolve this issue?
- A. Select the duplex print option
 - B. Enable collated output
 - C. Modify the output tray in the print dialog
 - D. Change the output orientation
- Quick
Answer: **161**
- B25.** A system administrator has noticed that their cloud implementation supports multiple application instances during the busy workday, but only one application instance is available during the slower evening shifts. Which of the following would best describe this functionality?
- A. Metered utilization
 - B. Elasticity
 - C. Availability
 - D. Shared resources
 - E. File synchronization
- The Details: **192**
- B26.** A security administrator would like to ensure that each login attempt from a smartphone is from someone physically located inside the corporate office. Which of the following would provide this functionality?
- A. Serial interface
 - B. GPS
 - C. VPN
 - D. Hotspot
- Quick
Answer: **161**
- The Details: **193**
- B27.** A technician is connecting USB interfaces on a computer case to the motherboard. Which of the following would be commonly used for this connectivity?
- A. PCIe
 - B. eSATA
 - C. TPM
 - D. Headers
- Quick
Answer: **161**
- The Details: **194**

B28. A company is building an ARM-based IoT device for the consumer market. Which of the following would be an advantage of using the ARM architecture for this product? (Choose TWO)

- A.** Redundancy
- B.** High speed networking
- C.** Low power use
- D.** NAS
- E.** Load balancing
- F.** Minimal heat

Quick
Answer: **161**

The Details: **195**

B29. A manufacturing company uses a specialized printer which connects to a Windows computer over a USB connection. Which of the following would be the best way to allow all Windows devices in the company to send print jobs to this printer?

- A.** Connect the printer to an Ethernet switch
- B.** Configure Windows Printer Sharing
- C.** Use Print to File and copy the file to the printer
- D.** Copy the print jobs to a USB drive

Quick
Answer: **161**

The Details: **196**

B30. Which of these would commonly be used to connect to an external storage device?

- A.** F-connector
- B.** ST
- C.** eSATA
- D.** Molex

Quick
Answer: **161**

The Details: **197**

B31. A company has acquired computers that were previously part of a third-party lease. All of the computers prompt for a password when powering on the system before the operating system will load, but the password was not included with the computers. Which of the following would be the best way to resolve this issue?

- A. Replace the primary storage drive
- B. Boot from the Windows installation media
- C. Reset the BIOS using jumpers on the motherboard
- D. Disconnect the power cable for ten minutes

Quick
Answer: **161**

The Details: **198**

B32. A user has complained that a laptop will not charge the battery past 25% percent, and the laptop only operates for fifteen minutes when on battery power. The battery and the AC adapter have already been replaced.

Which of the following components would be the most likely cause of this issue?

- A. Motherboard
- B. Backlight inverter
- C. 802.11 adapter
- D. CPU

Quick
Answer: **161**

The Details: **199**

B33. A field engineer is working at a remote site that is under construction, but the site does not have an Ethernet or Wi-Fi Internet connection. Which of the following would be the best way to get access to the Internet at this location?

- A. Bluetooth
- B. Hotspot
- C. MAN
- D. NFC

Quick
Answer: **161**

The Details: **200**

B34. Which of the following would be the most likely reason the finishing function of a printer would punch two holes in a page instead of three?

- A. The incorrect paper tray is selected
- B. The print driver is not configured properly
- C. The printer is low on toner
- D. The connection between the computer and the printer is faulty

Quick
Answer: **161**

The Details: **201**

B35. A technician is upgrading the RAM on a laptop computer. Which of the following would best describe the memory required for this upgrade?

- A. SSD
- B. SO-DIMM
- C. Memory card
- D. ECC

Quick
Answer: **161**

The Details: **202**

B36. A hospital would like to use a hands-free authentication system based on the user's proximity to the computer. Which of the following technologies would be the best choice for this system?

- A. NFC
- B. 5G
- C. MDM
- D. SSD

Quick
Answer: **161**

The Details: **203**

B37. An IT department is building out a new floor of office space for the company. Which of the following cables would be the best choice to install in the active airspace above the drop ceiling?

- A. Plenum-rated
- B. Shielded twisted-pair
- C. Coaxial
- D. PVC jacketed twisted-pair

Quick
Answer: **161**

The Details: **204**

- B38.** A developer is connecting a laptop to an LCD projector, but the projected image is flickering and occasionally part of the output will appear blocky and difficult to read. Which of the following should resolve this issue?
- A. Replace the projector's video cable
 - B. Turn the projector off and back on again
 - C. Update the laptop's video driver
 - D. Connect the laptop to a power source
- Quick
Answer: **161**
The Details: **205**
- B39.** A graphics designer needs to connect their macOS computer to a second monitor and an external storage drive. Which of the following interface types would provide this connectivity?
- A. Lightning
 - B. DisplayPort
 - C. DVI-D
 - D. Thunderbolt
- Quick
Answer: **161**
The Details: **206**
- B40.** What cloud-based service provides hardware, but still requires the user to setup, configure, and manage the operating system and applications?
- A. SaaS
 - B. PaaS
 - C. IaaS
 - D. DaaS
- Quick
Answer: **161**
The Details: **207**
- B41.** Which of the following would be most associated with a SAN?
- A. Bluetooth
 - B. RAID
 - C. APIPA
 - D. Cellular
- Quick
Answer: **161**
The Details: **208**

B42. A network administrator is using a laptop computer to configure a switch over a direct cable connection. Which of the following would best describe this connectivity?

- A. Bluetooth
- B. Thunderbolt
- C. Serial
- D. Lightning

Quick
Answer: **161**

The Details: **209**

B43. A manager in the accounting department is complaining of slow performance on her computer. Initial troubleshooting shows low utilization of CPU and memory. A network speed test reports normal throughput to the local network devices. Which of the following would be the best next step for troubleshooting this issue?

- A. Boot to Safe Mode
- B. Upgrade the BIOS
- C. Replace the memory modules
- D. Perform a hard drive diagnostic

Quick
Answer: **161**

The Details: **210**

B44. A server administrator has moved a database server from a lab to a data center. After installing the server in a data center rack, the system does not power on. None of the system lights are on, and the power supply and cooling fans do not spin up. Which of the following should be the first troubleshooting step for this issue?

- A. Replace the power supply
- B. Reseat all of the internal components
- C. Check the power cable
- D. Replace the motherboard

Quick
Answer: **161**

The Details: **211**

B45. A user is traveling and has enabled airplane mode on their laptop, but they would still like to use their wireless headset. Which of these settings should be enabled to allow this functionality?

- A. Wi-Fi
- B. USB
- C. Bluetooth
- D. Cellular

Quick
Answer: **161**

The Details: **212**

B46. A user has submitted a job to a network printer, but the printer will not begin to print until the user has typed their PIN on the printer console. Which of the following would best describe this scenario?

- A. Badging
- B. Secured prints
- C. Active Directory
- D. ADF

Quick
Answer: **161**

The Details: **213**

B47. An error message has appeared when starting up a laptop computer with the message "SMART Failure Predicted." Which of the following would be most related to this notification message?

- A. Storage drive is failing
- B. RAM failed a memory diagnostic
- C. Battery life is below 20%
- D. Network connectivity is intermittent

Quick
Answer: **161**

The Details: **214**

B48. A system administrator needs to install an access point using PoE. However, the installed Ethernet switch does not support any PoE interfaces. Which of the following would be the best way to provide PoE functionality?

- A. Use a different access point
- B. Replace the switch with a router
- C. Upgrade the switch's power supply
- D. Add an injector

Quick
Answer: **161**

The Details: **215**

B49. A network administrator is capturing all network traffic from a specific NIC. Which of the following would best describe the unique network identifier associated with this NIC?

- A. MAC address
- B. APIPA
- C. Serial number
- D. Subnet mask

Quick
Answer: **161**

The Details: **216**

B50. An organization has implemented a cloud solution using a third-party data center. Access to the cloud service is available to anyone on the Internet. Which of the following describes this deployment model?

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

Quick
Answer: **161**

The Details: **217**

B51. What voltages would be commonly found on a motherboard's power supply connector?

- A.** 120 V AC
- B.** 12 V AC, 5 V AC, 3.3 V AC
- C.** 12 V DC, 5 V DC, 3.3 V DC
- D.** 120 V DC

Quick
Answer: **161**

The Details: **218**

B52. A user is reporting this message on their Windows computer taskbar icon: "Limited or No connectivity." Which of the following would be the best next troubleshooting step?

- A.** Check the local IP address configuration
- B.** Restart the computer
- C.** Ping the default gateway
- D.** Check the switch VLAN configuration
- E.** Check for a duplicate IP address

Quick
Answer: **161**

The Details: **219**

B53. What kind of device is installed into a computer and directly connects the computer to an Ethernet network?

- A.** NIC
- B.** Switch
- C.** Repeater
- D.** Bridge

Quick
Answer: **161**

The Details: **220**

B54. A network administrator is planning to connect the network of two buildings together with a Category 6A cable. Ten Ethernet cables have been run from a wiring closet, through a conduit, and into a wiring closet on the other side. The network administrator needs to identify the ends of the cables so they can be properly terminated on each side. Which of the following should be used to complete this task?

- A.** Cable stripper
- B.** Loopback plug
- C.** Tone generator
- D.** Crimper

Quick
Answer: **161**

The Details: **221**

B55. A server administrator has configured a database server with a RAID 0 array containing four hard drives. An error notification from the RAID controller states that disk 3 has failed. Which of the following would be the BEST way to address this disk failure?

- A.** Replace the drive and re-mirror the array
- B.** Replace the drive and resynchronize the array
- C.** Replace the drive and restore from backup
- D.** Replace all drives and restore from backup
- E.** Replace all drives and resynchronize the array

Quick
Answer: **161**

The Details: **222**

B56. A company is installing a new communications link using SC interfaces. Which of the following would best describe this connection?

- A.** Fiber optic
- B.** USB-C
- C.** 10GBASE-T
- D.** M.2

Quick
Answer: **161**

The Details: **223**

B57. A technician believes the photosensitive drum on a networked laser printer is scratched. Which of the following helped the technician identify this issue?

- A.** Garbled text
- B.** Toner not sticking to the paper
- C.** Grinding noises
- D.** Solid line down the printed page

Quick
Answer: **161**

The Details: **224**

B58. An application developer is designing an app which uses three servers running simultaneously as VMs on her desktop. An upgrade to the application will add three additional servers to the list of running VMs. Which of these hardware resources will be the most important for this upgrade?

- A.** Video adapter
- B.** Network connection
- C.** RAM
- D.** CPU

Quick
Answer: **161**

The Details: **225**

B59. A company has experienced a significant increase in printing costs over the last few months. Which of the following would provide the best way to track and manage these costs?

- A.** Audit logs
- B.** Print spooler uptime
- C.** Power usage monitor
- D.** Packet captures

Quick
Answer: **161**

The Details: **226**

B60. A network engineer is troubleshooting an issue communicating to the Internet over a newly installed DSL connection. A laptop is connected to a DSL router over twisted pair copper. The IP configuration of the laptop is:

IP address: 169.254.228.109

Subnet mask: 255.255.0.0

DNS: 9.9.9.9

Which of the following should be the next troubleshooting step?

- A.** Reset the DSL modem
- B.** Modify the subnet mask
- C.** Change the DNS server address
- D.** Check the status of the DHCP server

Quick
Answer: **161**

The Details: **227**

B61. A user in the accounting department has configured their mobile phone as a hotspot. Which of these would best describe this configuration?

- A.** Use the phone as a method of payment
- B.** Fast-charge the phone
- C.** Access the Internet through the phone
- D.** Connect to external speakers

Quick
Answer: **161**

The Details: **228**

B62. A user has logged into their laptop using a fingerprint reader on the laptop's keyboard tray. Which of the following would best describe this technology?

- A.** NFC
- B.** GPS
- C.** Screen digitizer
- D.** Biometrics

Quick
Answer: **161**

The Details: **229**

B63. An organization has recently implemented a browser-based email system that requires no additional software on the user devices. Which of the following would describe this type of application?

- A.** SaaS
- B.** IaaS
- C.** HaaS
- D.** PaaS

Quick
Answer: **161**

The Details: **230**

B64. What type of power supply can operate across countries using different voltages?

- A.** High-voltage
- B.** Primary
- C.** Modular
- D.** Voltage switching

Quick
Answer: **161**

The Details: **231**

B65. A user is reporting after starting their desktop, they receive the message “Windows has detected an IP address conflict.” Which of the following would be the best way to resolve this issue?

- A.** Replace the Ethernet patch cable
- B.** Enable DHCP on the workstation
- C.** Bounce the switch port
- D.** Reboot the default gateway

Quick
Answer: **161**

The Details: **232**

B66. Each time a user logs in, they must insert their company ID card to a USB card reader to complete the authentication. Which of the following would best describe the technology used for this authentication?

- A.** 802.1
- B.** Bluetooth
- C.** SMB
- D.** RFID

Quick
Answer: **161**

The Details: **233**

B67. Which of the following connectors would be used to terminate a copper Ethernet patch cable?

- A. BNC
- B. Lightning
- C. RJ45
- D. DB-9

Quick
Answer: **161**

The Details: **234**

B68. A user has started their laptop, but the screen is completely covered with colored lines and flashing colors. Which of the following would best resolve this issue?

- A. Replace the laptop screen
- B. Enable the display's scaling option
- C. Change the output resolution
- D. Disable the dynamic color temperature option

Quick
Answer: **161**

The Details: **235**

B69. A system administrator has just received a laptop previously sent out for repair. However, after powering on the computer, the laptop no longer responds to the stylus. Which of the following is the most likely reason for this issue?

- A. The GPU requires an updated device driver
- B. The display needs a new inverter
- C. The display needs to be paired to the laptop motherboard
- D. The digitizer is faulty

Quick
Answer: **161**

The Details: **236**

B70. A graphics designer has noticed that small dots on their screen remain a solid black color, even when the image should display a different color. Which of the following would describe this issue?

- A. Burn-in
- B. Non-native resolution
- C. Incorrect data source
- D. Dead pixel

Quick
Answer: **161**

The Details: **237**

B71. A gaming enthusiast has upgraded his home computer from integrated graphics to a separate video adapter card. The computer operates as expected for web browsing and word processing applications. However, playing a game results in the system shutting down after a few minutes of operation. Which of the following would be the most likely component causing this issue?

- A. CPU
- B. Power supply
- C. RAM
- D. SSD

Quick
Answer: **161**

The Details: **238**

B72. A network administrator has just installed a new access point in a downtown office building, but now users are reporting intermittent connectivity to the Internet. Which of the following would be the first thing to check?

- A. SSID broadcast option
- B. Firmware version
- C. MAC filter
- D. Channel interference levels

Quick
Answer: **161**

The Details: **239**

B73. A company would like to advertise a list of email servers authorized to send messages on their behalf. Which of the following would be the best way to provide this information?

- A. APIPA
- B. Proxy server
- C. UTM
- D. SPF record

Quick
Answer: **161**

The Details: **240**

B74. A company assigns IP addresses automatically to each device, and those addresses will remain on the device for a minimum of 8 hours. Which of the following best describes this configuration?

- A. Subnet mask
- B. Lease
- C. SDN
- D. Reservation

Quick
Answer: **161**

The Details: **241**

B75. Users in the marketing department are reporting that one network printer is not working. There are many print jobs in the queue, but none of the jobs are printing. A test print from the printer's front panel does not print any pages. What is the most likely reason for this printing issue?

- A. Printer drivers need to be updated
- B. Network is disconnected
- C. Printer hardware has failed
- D. Print spooler needs to be restarted

Quick
Answer: **161**

The Details: **242**

B76. A member of the accounting department would like to work remotely while attending a conference in another city. Which of these technologies would best provide this functionality?

- A. VLAN
- B. 802.11
- C. VPN
- D. PAN

Quick
Answer: **161**

The Details: **243**

B77. In which of the following situations would you be most likely to use a network tap?

- A. Attach an RJ45 connector to the end of an Ethernet cable
- B. Capture packets from a network link
- C. Test packet loss on a router interface
- D. Locate a specific workstation connection on a punch-down block

Quick
Answer: **161**

The Details: **244**

B78. A digital graphics department has been using a SAN to store their image files. The team now reports that all of the files on the SAN are no longer accessible. Which of the following should be the first thing to check on the SAN?

- A. RAID array status
- B. CPU utilization
- C. Input voltage
- D. Cache hits

Quick
Answer: **161**

The Details: **245**

B79. A network administrator is installing a new access point between buildings. Which of the following would determine the usable frequencies and maximum signal strength for this connection?

- A.** End User License Agreement
- B.** Type of data transferred
- C.** Acceptable Use Policy
- D.** Government regulations

Quick
Answer: **161**

The Details: **246**

B80. A network administrator is pinging a site on the Internet and receives these results:

```
C:\Users\professor>ping 9.9.9.9
```

```
Pinging 9.9.9.9 with 32 bytes of data:  
Reply from 9.9.9.9: bytes=32 time=618ms TTL=128  
Reply from 9.9.9.9: bytes=32 time=816ms TTL=128  
Reply from 9.9.9.9: bytes=32 time=627ms TTL=128  
Reply from 9.9.9.9: bytes=32 time=727ms TTL=128
```

```
Ping statistics for 9.9.9.9:  
Packets: Sent = 4, Received = 4, Lost = 0 (0% loss),  
Approximate round trip times in milli-seconds:  
Minimum = 618ms, Maximum = 816ms, Average = 697ms
```

Which of the following would best describe these state of this network connection?

- A.** Dropped packets
- B.** Excessive latency
- C.** Port flapping
- D.** Network loop

Quick
Answer: **161**

The Details: **247**

B81. A system administrator needs to upgrade the hard drives in a RAID array. Which of the following would be the best measurement of read and write times on the new hard drives?

- A. S. M. A. R. T.
- B. Jitter
- C. IOPS
- D. RPM

Quick
Answer: **161**

The Details: **249**

B82. A user normally stores files in their H: drive, but the drive letter is not appearing in File Explorer. Which of the following would be the most likely reason for this issue?

- A. Local drive performance is slow
- B. Login script did not run
- C. A drive in a RAID 1 array has failed
- D. The share is already in use

Quick
Answer: **161**

The Details: **250**

B83. A user's desktop computer does not start in the morning when the power button is pressed. A technician notices that the screen remains dark, but fans are spinning inside of the computer case. No messages are displayed and no beeps are heard. Which of the following would be the most likely reason for this issue?

- A. Faulty RAM
- B. No boot drive found
- C. The CPU is overheating
- D. Bad power supply

Quick
Answer: **161**

The Details: **251**

B84. A user in the shipping department needs a charging cable for their Android phone. Which of the following connectors would be the most likely to work on this phone?

- A. USB-C
- B. Lightning
- C. RJ45
- D. Thunderbolt

Quick
Answer: **161**

The Details: **252**

B85. A company has installed a page scanner that outputs the scanned files to SMB. Which of the following would be the most likely destination for these scanned images?

- A.** Cloud storage
- B.** Windows share
- C.** eSATA drive
- D.** Network printer
- E.** Email inbox

Quick
Answer: **161**

The Details: **253**

B86. A workstation administrator has been asked to troubleshoot an issue with Internet connectivity on a laptop computer. The network status in the taskbar shows a yellow exclamation mark with the message "No Internet access." When examining the Ethernet connection on the laptop, the cable sheath is an inch short and individual copper wires are visibly disconnected from the RJ45 connector. Which of the following should be used to correct this issue?

- A.** Crimper
- B.** Punch-down tool
- C.** Loopback plug
- D.** Cable tester

Quick
Answer: **161**

The Details: **254**

B87. A network administrator needs to connect two sites located on opposite sides of the city. Which of these network connections would be the most appropriate?

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

Quick
Answer: **161**

The Details: **255**

- B88.** Which of the following would be the BEST way to remove toner and paper dust from the inside of a laser printer?
- A. Use a chemical cleaner that removes toner particles
 - B. Run a cleaning page through the printer
 - C. Wipe the inside with a damp cloth
 - D. Use compressed air to blow out the particles
- B89.** A system administrator is connecting a remote site to the Internet over a single pair of copper wires. Which of the following is the administrator using for this installation?
- A. PoE switch
 - B. Tap
 - C. DSL modem
 - D. ONT
- B90.** Which of the following would most commonly be associated with a thermal pad?
- A. Connect a heat sink to a processor
 - B. Install a fan in a desktop computer case
 - C. Mount a radiator for liquid cooling
 - D. Manage CPU speed based on the current temperature

Quick
Answer: **161**

The Details: **256**

Quick
Answer: **161**

The Details: **257**

Quick
Answer: **161**

The Details: **258**

Practice Exam B

Multiple Choice Quick Answers

- | | | |
|--------------|--------|--------|
| B6. A | B36. A | B66. D |
| B7. D | B37. A | B67. C |
| B8. C | B38. A | B68. A |
| B9. A | B39. D | B69. D |
| B10. B | B40. C | B70. D |
| B11. A | B41. B | B71. B |
| B12. C | B42. C | B72. D |
| B13. D | B43. D | B73. D |
| B14. A | B44. C | B74. B |
| B15. B | B45. C | B75. C |
| B16. D | B46. B | B76. C |
| B17. D | B47. A | B77. B |
| B18. D | B48. D | B78. A |
| B19. B | B49. A | B79. D |
| B20. C | B50. B | B80. B |
| B21. B | B51. C | B81. C |
| B22. D | B52. A | B82. B |
| B23. B | B53. A | B83. D |
| B24. C | B54. C | B84. A |
| B25. B | B55. C | B85. B |
| B26. B | B56. A | B86. A |
| B27. D | B57. D | B87. A |
| B28. C and F | B58. C | B88. C |
| B29. B | B59. A | B89. C |
| B30. C | B60. D | B90. A |
| B31. C | B61. C | |
| B32. A | B62. D | |
| B33. B | B63. A | |
| B34. B | B64. D | |
| B35. B | B65. B | |

Practice Exam B

Performance-Based Answers

- B1.** Match the printer issue to the best troubleshooting task.
Not all troubleshooting options will be used:



Laser printer output is faded and difficult to read



Replace the toner cartridge

Laser printers will use heat and pressure to permanently attach toner to the printed page. When the amount of available toner in the cartridge becomes low, the output will progressively fade as the toner is completely depleted.



Every page printed on an inkjet printer is garbled text



Change the page description language

A page full of garbled text often means the printer is configured for one page description language but a print job is using a different page description language. This often results in a page full of unusual graphics characters and garbled text.



Almost every page jams inside of a network laser printer



Clean the pickup rollers

The pickup rollers are used to grab a single page from the paper tray and feed that page through the printer. If more than one page is stuck in the feeder or the pages keep jamming, it may be time to clean or replace the pickup rollers.



Five print jobs are sitting in the print queue and not printing



Restart the print spooler

The print spooler is responsible for receiving, queuing, and sending the print jobs to the printer. If the print spooler has crashed or is hung, the best practice is to remove any problematic print jobs and restart the print spooler.



The printer trays do not match the paper options in the application



Update the printer driver configuration

The printer driver is located on a user's computer, and it provides the list of printer options and paper tray configurations. If the printer driver is incorrect or misconfigured, the list of available output options may not match the actual printer configuration. Using the correct driver or updating the print driver often resolves these configuration issues.



An inkjet printer outputs unwanted lines across the printed page



Clean the print heads

Inkjet printers use a type of ink that tends to clog the print heads and create streaks of ink across the printed page. Most printers will perform an automatic cleaning each day, but often a printer may require a manual cleaning or complete replacement of the print heads or cartridges.



More information:

220-1201, Section 5.6 - Troubleshooting Printers

<https://professormesser.link/1201050601>

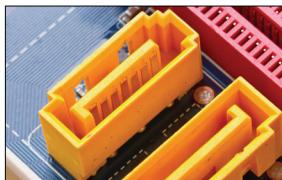
B2. Match these interfaces with their name and the most common use:



F connector

Install a cable modem

An F connector is commonly associated with coaxial cable, and is a common cable type for cable modem installations.



SATA

Connect an SSD

SATA (Serial AT Attachment) connectors are commonly used to attach storage devices to a motherboard. A single SATA connector supports one device, and these interfaces are commonly used to attach hard drives and SSDs (Solid-State Drives).



HDMI

Replace an external monitor

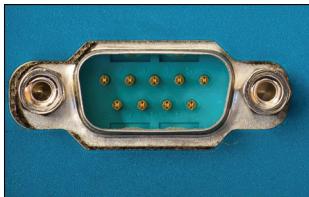
HDMI (High-Definition Multimedia Interface) is a video standard common for most displays, televisions, and monitors. The HDMI interface on a computer will connect directly to a similar HDMI connector on the display device.



Molex

Add power for internal fans

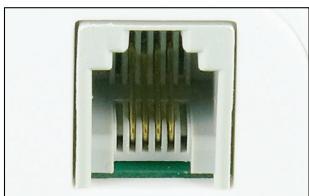
A Molex connector is commonly provided by desktop computer power supplies to provide voltage for internal devices and peripherals. Molex connectors can be used to power hard drives, SSDs, case fans, and more.



DB-9

Connect to a switch console

DB-9 serial interfaces were used extensively prior to the development of USB interfaces. Many legacy infrastructure devices continue to use DB-9 connections to provide console access to the device over a serial cable.



RJ11

Replace a DSL modem

RJ11 (Registered Jack type 11) is the standard modular connector used by analog telephones and similar devices. DSL (Digital Subscriber Line) uses phone lines to deliver high-speed Internet, and the RJ11 connections are commonly used to connect the existing phone lines to a DSL modem.



More information:

220-1201, Section 3.2 - Copper Connectors

<https://professormesser.link/1201030208>

B3. Choose the best network tool. Not all tools will be used.

Crimper

Cable stripper

Toner probe

Punchdown tool

Cable tester

Loopback plug

Network tap

Toner probe

Locate one cable inside of a
bundle of fifty cables

The toner probe is actually two separate components; the tone generator and the inductive probe. The tone generator is attached to one end of the cable, and the inductive probe is used to locate the other end of the cable. The probe can locate the tone relatively quickly, even in a large bundle of cables.

Cable tester

Verify the connected pins on
both sides of an Ethernet cable

A cable tester can provide a continuity test through a network cable to build a simple wire map of the pins.

Crimper

Fasten an RJ45 connector
to a Category 6 cable

A crimper is used to physically attach the connector to the end of a network cable. Crimpers are available for RJ45, RJ11, coax, and other types of connectors.

Network tap

Capture a network conversation
to measure bandwidth usage

A network tap is used to intercept network traffic and send a copy of the traffic to a packet capture or similar device.

Loopback plug

Perform a diagnostic test
on a router interface

A loopback plug is used to redirect any outgoing signal back into the existing interface. This is commonly used for diagnostics and to confirm the information being sent matches the information being received.

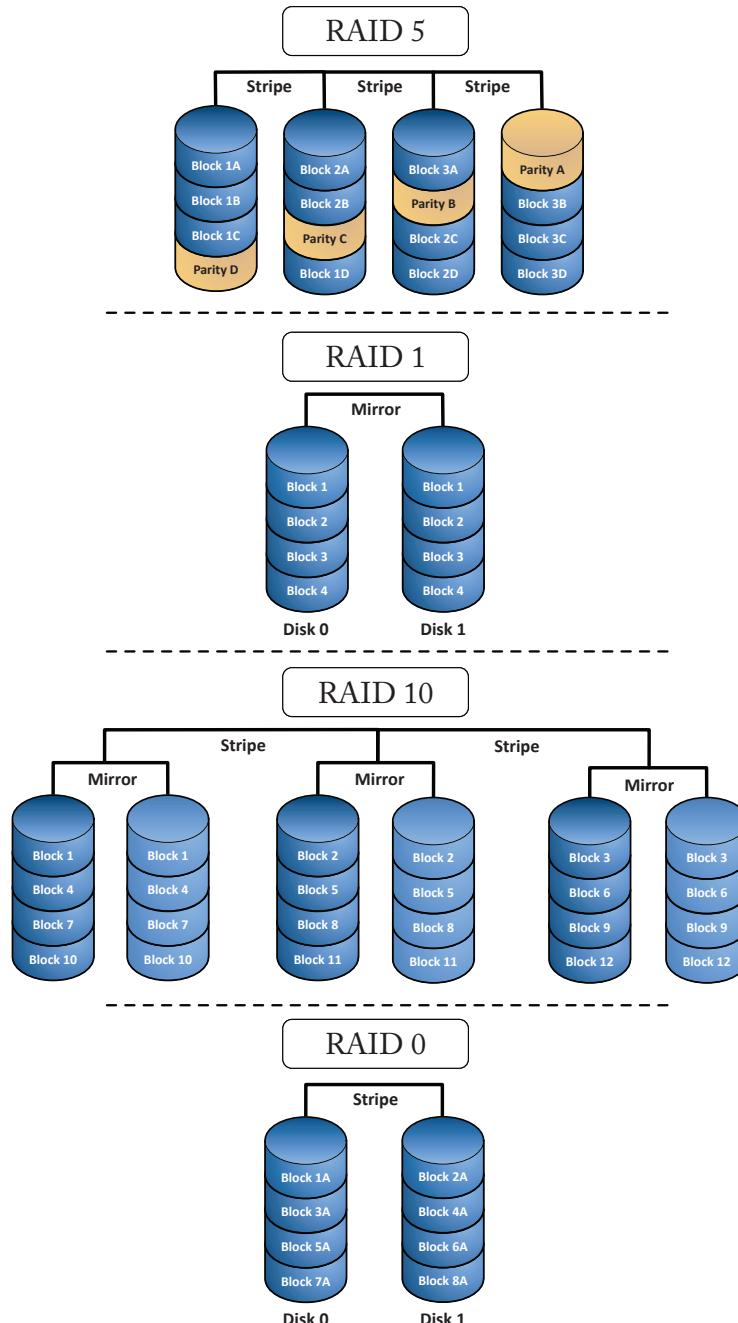


More information:

220-1201, Objective 2.8 - Network Tools

<https://professormesser.link/1201020801>

B4. Fill in the blank with the name of the RAID configuration:



More information:

220-1201, Objective 3.4 - RAID

<https://professormesser.link/1201030402>

- B5.** Match these network protocols to their description.
Not all protocols will be used.

SMB

SSH

LDAP

IMAP

Telnet

SMTP

HTTPS

SNMP

RDP

DHCP

DNS

FTP

RDP

Control the desktop of a remote computer

RDP (Remote Desktop Protocol) is used for viewing and controlling the desktop of a remote device. RDP is commonly associated with controlling a device running a Microsoft operating system.

SMTP

Send email messages from a mobile device

SMTP (Simple Mail Transfer Protocol) is used to send messages from a device or to transfer email messages between email servers over tcp/25.

LDAP

Logins use a centralized authentication server

LDAP (Lightweight Directory Access Protocol) is a standard protocol for accessing information in a network directory. This is a common protocol to find on many authentication servers, and LDAP is integrated into Microsoft Active Directory to support authentications from devices not directly part of the Microsoft infrastructure.

DHCP

Automatically assign IP addresses

DHCP (Dynamic Host Configuration Protocol) is the primary protocol commonly used to automate the configuration of IP addresses, subnet masks, and other networking options. DHCP uses both udp/67 and udp/68 for these auto-configuration tasks.

DNS

Resolve an IP address from an FQDN

DNS (Domain Name System) services are most commonly used to convert between an FQDN (Fully Qualified Domain Name) and an IP address. DNS allows us to refer to devices by name instead of using an IPv4 or IPv6 address each time.

SMB

Print from Windows to a network printer

SMB (Server Message Block), is commonly used on Windows systems to share files and printers over tcp/445.

SSH

Encrypt a terminal connection

SSH (Secure Shell) is used to communicate to a terminal screen over an encrypted channel using tcp/22.

**More information:**

220-1201, Objective 2.1 - Common Network Ports

<https://professormesser.link/1201020102>

Practice Exam B

Multiple Choice Detailed Answers

B6. A server administrator has four identical drives to install into a database server. Which of these RAID types would provide both redundancy and the most available storage space?

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

The Answer: **A.** RAID 5

With RAID 5, three drives would contain user data and the fourth drive would store parity information. This efficient use of space and the included redundancy make RAID 5 the best option.

The incorrect answers:

B. RAID 10

A RAID 10 array can be created with four drives, but two of those drives will be mirrored drives, effectively limiting the available storage space by 50 percent.

C. RAID 0

RAID 0, or striping, does not provide any redundancy and would not meet the requirements in this question.

D. RAID 1

RAID 1 is mirroring, and half of the available storage space would be dedicated to storing redundant data.



More information:



220-1201, Objective 3.4 - RAID



<https://professormesser.link/1201030402>

B7. A user is attempting to charge their iPhone, but the charging icon does not appear when connecting the charging cable. A working cable from another iPhone exhibits the same symptoms. Which of the following is the most likely reason for this issue?

- A.** The screen is locked
 - B.** An iOS update is pending
 - C.** The iPhone has low signal
 - D.** The charging port is damaged
-

The Answer: **D.** The charging port is damaged

A damaged physical interface would prevent the phone from charging, even while attempting to charge with different cables.

The incorrect answers:

A. The screen is locked

A locked screen would prevent access to the phone's apps or data, but it would not prevent the phone from charging.

B. An iOS update is pending

It's important to stay up to date with the latest operating system version, but a pending update would not prevent the phone from charging.

C. The iPhone has low signal

A low signal on the cellular or Wi-Fi network could cause issues with phone or data communication, but it would not stop the phone from charging the battery when connecting the Lightning cable.



More information:

220-1201, Objective 5.4 - Troubleshooting Mobile Devices

<https://professormesser.link/1201050401>

- B8.** A user in the marketing department needs an LCD with the best possible color representation. Which of the following would be the best choice for this requirement?
- A.** TN
 - B.** CCFL
 - C.** IPS
 - D.** VA
-

The Answer: C. IPS

An IPS (In Plane Switching) display provides excellent color representation and would be the best choice of the available options.

The incorrect answers:

A. TN

The response times of a TN (Twisted Nematic) display are relatively fast, making it a good choice for gaming. However, TN displays tend to have poor viewing angles and suffer from color shifts when viewed at an angle.

B. CCFL

Older displays use a CCFL (Cold Cathode Fluorescent Lamp) backlight on LCD (Liquid Crystal Display) monitors. This provides enough light to see the information on the display, but using a CCFL backlight does not directly affect the quality of the color on the screen.

D. VA

A VA (Vertical Alignment) display is a good compromise between TN and IPS displays, but it doesn't quite meet the color representation of an IPS display.



More information:

220-1201, Objective 3.1 - Display Types

<https://professormesser.link/1201030101>

- B9.** A company is receiving an increase in malware delivered to random employees through email attachments. Which of the following would be the best way to protect users against this malicious software?
- A.** Spam gateway
 - B.** DHCP services
 - C.** Syslog
 - D.** VLANs
-

The Answer: **A.** Spam gateway

A spam gateway acts as a filter for unauthorized or unsolicited email messages. Most spam gateways can scan files for malicious software and filter those messages before delivery to the recipient.

The incorrect answers:

B. DHCP services

DHCP (Dynamic Host Configuration Protocol) is used to automatically assign IP address settings. DHCP does not provide any filtering mechanism for malware or email messages.

C. Syslog

Syslog is a standard for transferring log information from devices on the network. This is commonly used to transfer switch, router, firewall, and other log files to a central database.

D. VLANs

VLANs (Virtual Local Area Networks) are used to create logical network segmentations by broadcast domains. This can allow the implementation of more specific security policies, but VLANs do not have any inherent filtering or malware identification features.



More information:

220-1201, Objective 2.3 - Network Services

<https://professormesser.link/1201020301>

B10. A user has reported their tablet is not able to retrieve or send mail, browse the Internet, or connect to video conferences. Apps on the device which do not require connectivity are working as expected. Which of these would be the most likely cause of this issue?

- A.** Battery is very low
 - B.** The Wi-Fi network is out of range
 - C.** The touch screen needs calibration
 - D.** The tablet is overheated
-

The Answer: **B.** The Wi-Fi network is out of range

A Wi-Fi network has limited range, and poor connectivity would result in communications issues, application faults, and other networking issues.

The incorrect answers:

A. Battery is very low

A low battery could cause the tablet to enter a power conservation mode, but network connections are usually available when these low power modes are used.

C. The touch screen needs calibration

Some older mobile devices need to be constantly calibrated to maintain an accurate digitizer input. This issue is not related to the user interface or touch screen, so a calibration would not resolve this problem.

D. The tablet is overheated

If a mobile device becomes overheated, the entire system will shut down until the internal temperature is lowered to a safe operational range. An overheating tablet would not disable independent features such as the network connection.



More information:

220-1201, Objective 5.4 - Troubleshooting Mobile Devices

<https://professormesser.link/1201050401>

B11. A PC technician has been asked to replace the LCD on a touch-screen laptop computer. Which of the following would be the most important component to test after this replacement?

- A.** Digitizer
 - B.** Keyboard
 - C.** Audio controls
 - D.** System memory
-

The Answer: **A.** Digitizer

A digitizer is built into the LCD display, and it would be the most likely component to have a problem after the entire display has been replaced.

The incorrect answers:

B. Keyboard

Although the keyboard cables can be accidentally dislodged when working inside of a laptop computer, the display and keyboard are usually far enough apart that a keyboard problem would be uncommon.

C. Audio controls

Many laptops include audio controls and buttons on the top of the laptop keyboard, but these controls are not usually replaced or modified when a display is replaced.

D. System memory

The RAM of a computer is not commonly removed or reseated when working on the display, so you would not expect to see any issues with memory once the system is put back together.



More information:

220-1201, Objective 3.1 - Display Types

<https://professormesser.link/1201030101>

- B12.** The computers in the shipping department are receiving the message “No connectivity” on their computers. The ipconfig output on one of the computers provides this information:

IPv4 Address: 192.168.1.22
Subnet Mask: 255.255.255.0
Default Gateway: 192.168.1.1

From this device, a technician is able to successfully ping 127.0.0.1 and 192.168.1.22. The technician can also ping other devices in the shipping department, but cannot receive a ping response from servers in the data center or from the 192.168.1.1 address.

Which of these would be the most likely cause of this issue?

- A.** The DHCP server is down
 - B.** The wireless network is experiencing interference
 - C.** The local router is down
 - D.** The Internet provider is experiencing an outage
-

The Answer: **C.** The local router is down

The default gateway is the local router for the IP subnet. If the default gateway address of 192.168.1.1 is not responding to a ping, then the router may not be operational.

The incorrect answers:

A. The DHCP server is down

The IPv4 address assigned to the computer shows an IP address which was either assigned manually or through a DHCP (Dynamic Host Configuration Protocol) server. None of the output or symptoms appear to be related to a faulty DHCP server.

B. The wireless network is experiencing interference

Some ping responses are working normally, so there doesn't appear to be any evidence of wireless interference.

D. The Internet provider is experiencing an outage

This issue did not appear to be related to any Internet connectivity, so the status of the Internet link would not be an issue.



More information:

220-1201, Objective 5.5 - Troubleshooting Networks

<https://professormesser.link/1201050501>

B13. Which of the following would be the best way to activate the screen of a smartphone without physically touching the display?

- A. Trackpad
 - B. Port replicator
 - C. Smart card reader
 - D. Stylus
-

The Answer: D. Stylus

A stylus provides for interaction of a touch screen without physically pressing the display with a fingertip. A stylus is often referenced as a touchscreen pen, touch screen stylus, or capacitive stylus.

The incorrect answers:

A. Trackpad

A trackpad is commonly used on laptops and tablets, but the size of a smartphone does not generally allow the use of a trackpad.

B. Port replicator

A port replicator is used by laptops to limit the amount of cable and power connections each time the laptop is moved. A port replicator would not be used with a smartphone.

C. Smart card reader

Smart card readers are usually integrated into a laptop or connected to a computer with a USB connection. Smart card readers are not commonly used with smartphones.



More information:

220-1201, Objective 1.2 - Mobile Device Accessories

<https://professormesser.link/1201010202>

B14. A graphics designer is working on a computer that powers itself off after about an hour of work. The computer tends to power down when working on complex designs that require extensive CPU utilization. Which of the following would be the most likely reason for this issue?

- A.** The case fans are blocked
 - B.** The hard drive is failing
 - C.** The graphics software is corrupted
 - D.** A device driver is outdated
-

The Answer: **A.** The case fans are blocked

Most motherboards are designed to power off automatically if the temperatures become excessive. If the case fans are blocked, the inside of the computer will not be able to efficiently cool the system. Eventually, the heat from the heavily-worked CPU will cause the system to power down.

The incorrect answers:

B. The hard drive is failing

A failing hard drive may appear to be working slower than normal, or file system errors may appear when working in an application. A bad hard drive will not commonly power off the computer.

C. The graphics software is corrupted

Problems with software will display an error message on the screen or cause the application to suddenly disappear. An application problem will not commonly cause a computer to power down.

D. A device driver is outdated

It can be important to keep device drivers updated, but an outdated driver will not commonly cause a system to power down. A problem with a device driver will cause an error message in the operating system or application.



More information:

220-1201, Objective 5.1 - Troubleshooting Hardware

<https://professormesser.link/1201050101>

B15. Which of these services would be associated with a Windows file transfer?

- A. LDAP
 - B. SMB
 - C. IMAP
 - D. SSH
-

The Answer: B. SMB

SMB (Server Message Block) is the protocol used by Microsoft Windows for file sharing, printer sharing, and other Windows services. SMB commonly uses port 445 to provide direct SMB communication between Windows devices.

The incorrect answers:

A. LDAP

LDAP (Lightweight Directory Access Protocol) is a protocol used to access network directories, such as Microsoft's Active Directory database.

C. IMAP

IMAP (Internet Message Access Protocol) is a popular email protocol used for retrieving message from an email server.

D. SSH

SSH (Secure Shell) provides an encrypted terminal connection across the network. SSH is not commonly used to transfer files from one Windows device to another.



More information:

220-1201, Objective 2.1 - Common Ports

<https://professormesser.link/1201020102>

B16. An administrator has installed a hypervisor on a server, but the administrator is not installing Windows or Linux. Which of the following would best describe this installation?

- A. VDI
 - B. Containerization
 - C. Hybrid cloud
 - D. Type 1
-

The Answer: D. Type 1

Type 1 hypervisors are also called bare metal hypervisors because they are installed without any underlying Windows or Linux operating system. Type 2 hypervisors are installed on an existing operating system.

The incorrect answers:

A. VDI

VDI (Virtual Desktop Infrastructure) provides cloud-based desktop access and management. VDI is often called Desktop as a Service (DaaS).

B. Containerization

Application containerization uses a host operating system and separate application "containers" to run application instances in an isolated and portable image.

C. Hybrid cloud

A hybrid cloud consists of a combination of a public cloud services and private cloud services. Many organizations have some degree of hybrid cloud offerings for their company.



More information:

220-1201, Objective 4.1 - Virtualization Services

<https://professormesser.link/1201040102>

B17. A technician is removing a cover from the bottom of a Windows laptop. Which of the following would be the most likely reason for this task?

- A. Replace the thermal paste
 - B. Reset the operating system
 - C. Connect an external display
 - D. Upgrade the memory
 - E. Add a stylus
-

The Answer: D. Upgrade the memory

Some laptop models provide options for easily upgrading RAM (Random Access Memory) through a small cover on the bottom of the laptop. Some covers also allow for easy upgrades of storage drives and other components.

The incorrect answers:

A. Replace the thermal paste

Thermal paste is usually added between a processor and a heat sink. Replacing the thermal paste usually requires significant disassembly of the laptop.

B. Reset the operating system

Fortunately, resetting the operating system is not managed from the access covers on a laptop. A hardware restart is usually provided through the existing power button on the top or side of the laptop.

C. Connect an external display

Connections to external displays using HDMI, DisplayPort, USB-C, and other video interfaces are commonly provided on the back of a laptop. The removal of an access cover is not required for this connection.

E. Add a stylus

A stylus is usually provided as a separate external input option. Adding a stylus would not commonly require the removal of a laptop's access cover.



More information:

220-1201, Objective 1.1 - Laptop Hardware

<https://professormesser.link/1201010101>

B18. A company is using a cloud-based service that provides a hardware platform and no additional software. Which of these would best describe this purchase?

- A.** SaaS
 - B.** Hybrid
 - C.** Metered
 - D.** IaaS
-

The Answer: D. IaaS

IaaS (Infrastructure as a Service) is a model that provides the computing platform, but no additional software. The user will usually configure the platform with the appropriate CPU, memory, and storage options, and the service provider is only responsible for the uptime and availability of the hardware platform. The user is generally responsible for all software administration.

The incorrect answers:

A. SaaS

SaaS (Software as a Service) provides a fully developed application for end-user access. The cloud service provider handles the hosting, application development, support, and all other aspects of application services. The users only need to login and use the available service from a browser or app.

B. Hybrid

A hybrid cloud deployment model combines both public cloud and private cloud resources. Public cloud resources would be publicly available, usually across the Internet. Private cloud resources would be restricted to a single organization or small group of organizations.

C. Metered

A metered cloud service is measured and price based on usage. For example, uploading, storing, or downloading documents will be measured and billed based on the amount of use. This is in comparison to a non-metered cloud service, where storage or data transfer may be based on a fixed monthly cost.



More information:

220-1201, Objective 4.2 - Cloud Models

<https://professormesser.link/1201040201>

B19. While working at their desk, a laptop user would like to use a full-size keyboard and external mouse. They would also like to connect to a monitor and wired network without connecting and disconnecting cables each time they leave the desk. Which of these would be the best way to provide this functionality?

- A. Use separate desktop and laptop computers
 - B. Install a docking station at the user's desk
 - C. Use a wireless access point at the user's desk
 - D. Install a USB hub for the laptop
-

The Answer: B. Install a docking station at the user's desk

A docking station provides the laptop with a single connection to video, network, keyboard, mouse, and other peripheral connections on their desk.

The incorrect answers:

A. Use separate desktop and laptop computers

Separate computers would introduce significant additional cost, and the user would need to manage multiple systems and synchronize applications and files between the systems. This would certainly not be the best of the available options.

C. Use a wireless access point at the user's desk

An access point is used to connect 802.11 wireless devices to a wired network. This particular question does not involve wireless network connectivity, and it would be more common to install an access point at a centralized high point of the work area.

D. Install a USB hub for the laptop

Unfortunately, a USB (Universal Serial Bus) hub wouldn't provide the connectivity required for video output, and it commonly wouldn't include wired network connectivity without additional adapters.



More information:

220-1201, Objective 1.2 - Mobile Device Accessories

<https://professormesser.link/1201010202>

B20. A server administrator needs to store gigabytes of server performance statistics for future analysis. The data needs to be always be available, even if a storage drive fails. Which of the following would be the best choice for this data?

- A.** Optical drive
 - B.** Flash drive
 - C.** RAID
 - D.** DDR
-

The Answer: C. RAID

Most RAID (Redundant Array of Independent Disks) configurations support the use of multiple drives for redundancy, even if a single drive was to fail.

The incorrect answers:

A. Optical drive

An optical drive can provide access to a relatively large storage space, but it doesn't provide any redundancy if a drive was to fail.

B. Flash drive

A flash drive is a common storage type for mobile devices. Flash memory storage does not include any type of backup or redundancy features.

D. DDR

DDR (Dual Data Rate) describes a type of RAM (Random Access Memory) module commonly used on desktop or laptop computers. DDR memory does not provide an option for offline storage.



More information:

220-1201, Objective 3.4 - RAID

<https://professormesser.link/1201030402>

B21. In which of the following would a cable with a DB-9 connector be used?

- A. Attaching a mouse or keyboard to a desktop computer
 - B. Configuring a router
 - C. Connecting an external storage device
 - D. Attaching a video camera to a computer
-

The Answer: B. Configuring a router

A DB-9 connector, or less commonly, DE-9 (D-subminiature size E, 9 pin) is a connector used to send serial signals to another device. A DB-9 connector on a computer is commonly used to connect to the management interface of a switch, router, firewall, or another infrastructure device.

The incorrect answers:

A. Attaching a mouse or keyboard to a desktop computer

A mouse and keyboard commonly uses USB (Universal Serial Bus) interfaces for connectivity.

C. Connecting an external storage device

External storage devices can connect using many different interface types, including USB, Thunderbolt, eSATA (External Serial AT Attachment), and others. The serial connection of a DB-9 connector would be too slow to support the high throughput required from an external storage device.

D. Attaching a video camera to a computer

Video cameras or webcams commonly use USB connections to support a high-speed connection across devices. DB-9 serial connections would be too slow to support the throughput required of real-time audio and video.



More information:

220-1201, Objective 3.2 - Copper Connectors

<https://professormesser.link/1201030208>

B22. A workstation administrator is configuring a new system for graphics designers, and the users have requested the fastest possible storage speed for reading and writing data. Which of the following would be the best choice for this requirement?

- A.** 10 TB NAS
 - B.** 8 TB HDD
 - C.** 5 TB SAN
 - D.** 2 TB SSD
-

The Answer: D. 2 TB SSD

The most important requirement for this new system is the speed of reading and writing data. Of the available options, the fastest throughput is an SSD (Solid-State Drive). Although the storage space is the lowest of the available options, the users didn't specify any minimum storage size requirements.

The incorrect answers:

A. 10 TB NAS

The throughput of a NAS (Network Attached Storage) is limited by the speed of the network. SSD technology can transfer data at speed that far exceeds most network connections.

B. 8 TB HDD

HDD (Hard Disk Drive) technology uses spinning disks to store and retrieve data. The mechanical nature of HDDs limit the throughput and are much slower relative to SSDs.

C. 5 TB SAN

A SAN (Storage Area Network) is similar to a NAS, where the network limits the overall throughput of the storage subsystem. A locally attached SSD is generally many times faster than a NAS or SAN system.



More information:

220-1201, Objective 3.4 - Storage Devices

<https://professormesser.link/1201030401>

B23. A user has connected a new laptop to an LCD projector in a conference room. About thirty minutes into the presentation, the projector light turns off but the projector fans continue to run. Which of the following would be the most likely reason for this issue?

- A. Incorrect laptop cable
 - B. Poor projector airflow
 - C. Dead pixels
 - D. Incorrect resolution setting
-

The Answer: B. Poor projector airflow

The lamp in an LCD projector can get very hot, and there are often many fans used to keep the lamp cool enough to work properly. If the fans are not working properly or the airflow is blocked, the projector will automatically shut down to prevent any heat damage.

The incorrect answers:

A. Incorrect laptop cable

If the laptop cable was incorrect, then the first thirty minutes of the presentation would not have worked properly with the projector.

C. Dead pixels

Dead pixels are individual dots on the screen that remain black and do not show any color. In this question, the output was working properly until thirty minutes into the presentation, so a dead pixel would not be associated with this issue.

D. Incorrect resolution setting

An incorrect or incompatible resolution configuration on the laptop would result in a skewed display or blank output. Since this display was working for thirty minutes, the resolution setting would not have been the issue.



More information:

220-1201, Objective 5.3 - Troubleshooting Display Issues

<https://professormesser.link/1201050301>

B24. A marketing manager is printing a document on the company letterhead stored in one of the printer trays. However, the output is instead printed from a tray containing plain paper. Which of the following would be the best way to resolve this issue?

- A.** Select the duplex print option
 - B.** Enable collated output
 - C.** Modify the output tray in the print dialog
 - D.** Change the output orientation
-

The Answer: **C.** Modify the output tray in the print dialog

The printer dialog shown during the print process should provide an option to choose the tray for the print job. If the tray selection is available, the option should be available in the print driver properties.

The incorrect answers:

A. Select the duplex print option

The duplex print option would print the output on both sides of the page, but it would not change the type of paper used for the output.

B. Enable collated output

Collated output will print each page of a document before printing another copy of that same document. The option to collate the output would not change the type of paper used, however.

D. Change the output orientation

The output orientation is normally configured for either portrait mode or landscape mode. Changing the orientation would not change the type of paper used by the printer.



More information:

220-1201, Objective 3.7 - Multifunction Devices

<https://professormesser.link/1201030701>

B25. A system administrator has noticed that their cloud implementation supports multiple application instances during the busy workday, but only one application instance is available during the slower evening shifts. Which of the following would best describe this functionality?

- A. Metered utilization
 - B. Elasticity
 - C. Availability
 - D. Shared resources
 - E. File synchronization
-

The Answer: B. Elasticity

Elasticity is a cloud characteristic used to increase and decrease the available resources as the application load changes.

The incorrect answers:

A. Metered utilization

A metered service commonly charges a fee based on the actual use of the service. For example, a cloud-based service that charges for each upload, download, and stored file is a metered service.

C. Availability

Highly available systems are designed to provide constant availability, even if one of the components of the system are temporarily unavailable.

D. Shared resources

A cloud-based infrastructure creates services by allocating a portion of an existing set of shared resources. The CPU, memory, and storage space used by a single cloud server is part of a much larger set of shared resources.

E. File synchronization

Many cloud-based services are shared across multiple locations. In these cases, it's useful to have critical databases and file systems synchronized so each location will be using the same application data.



More information:

220-1201, Objective 4.2 - Cloud Characteristics

<https://professormesser.link/1201040202>

- B26.** A security administrator would like to ensure that each login attempt from a smartphone is from someone physically located inside the corporate office. Which of the following would provide this functionality?
- A.** Serial interface
 - B.** GPS
 - C.** VPN
 - D.** Hotspot
-

The Answer: B. GPS

GPS (Global Positioning System) devices are very useful for mapping travel routes and destinations, and the GPS locations can be used by an application to identify the location of the device.

The incorrect answers:

A. Serial interface

Serial interfaces are often found as management interfaces on switches, routers, and other infrastructure devices. A serial interface is not commonly used to identify the physical location of a device or person.

C. VPN

A VPN (Virtual Private Network) is normally used to connect securely across the network to a remote location. Someone using a VPN would not commonly be physically located in the same location as the VPN concentrator.

D. Hotspot

A hotspot is a device that provides access to the Internet, usually over an 802.11 link.



More information:

220-1201, Objective 1.3 - Mobile Device Networks

<https://professormesser.link/1201010301>

B27. A technician is connecting USB interfaces on a computer case to the motherboard. Which of the following would be commonly used for this connectivity?

- A. PCIe
 - B. eSATA
 - C. TPM
 - D. Headers
-

The Answer: D. Headers

A header, or pin header, is a group of pins on the motherboard. These pins provide connectivity to different motherboard features, such as power, lights, peripheral connections, and more.

The incorrect answers:

A. PCIe

PCIe (Peripheral Component Interconnect Express) is a common expansion slot for adapter cards. PCIe interfaces are not commonly used to connect the motherboard with buttons or interfaces on a computer case.

B. eSATA

eSATA (External Serial AT Attachment) is commonly used as an external interface for storage devices. An eSATA interface is not used to connect USB interfaces to a motherboard.

C. TPM

A TPM (Trusted Platform Module) is cryptographic hardware used on a motherboard to manage encryption keys, digital signatures, and other cryptographic functions. A TPM is not used to connect the USB interfaces on a computer case.



More information:

220-1201, Objective 3.5 - Motherboard Connectors

<https://professormesser.link/1201030503>

B28. A company is building an ARM-based IoT device for the consumer market. Which of the following would be an advantage of using the ARM architecture for this product? (Choose TWO)

- A.** Redundancy
 - B.** High speed networking
 - C.** Low power use
 - D.** NAS
 - E.** Load balancing
 - F.** Minimal heat
-

The Answers: **C.** Lower power use, and **F.** Minimal heat

ARM (Advanced RISC [Reduced Instruction Set Computer] Machine) processors use a simplified instruction set for efficient processing using relatively minimal power and heat.

The incorrect answers:

A. Redundancy

Although redundancy is an important consideration for any product, the ARM processor does not inherently provide duplicate systems.

B. High speed networking

An ARM processor is not a requirement for high speed network connections.

D. NAS

A NAS (Network Attached Storage) system usually provides file storage that can be accessed across the network. An ARM processor isn't required for NAS services.

E. Load balancing

Load balancing separates a load into multiple instances for redundancy and performance. The ARM architecture does not inherently provide load balancing functionality.



More information:

220-1201, Objective 3.5 - CPU Features

<https://professormesser.link/1201030508>

B29. A manufacturing company uses a specialized printer which connects to a Windows computer over a USB connection. Which of the following would be the best way to allow all Windows devices in the company to send print jobs to this printer?

- A. Connect the printer to an Ethernet switch
 - B. Configure Windows Printer Sharing
 - C. Use Print to File and copy the file to the printer
 - D. Copy the print jobs to a USB drive
-

The Answer: **B.** Configure Windows Printer Sharing

Windows Printer Sharing allows the Windows computer to act as a print server. All devices on the network can view the printer and send print jobs to the printer using the Printer Sharing feature.

The incorrect answers:

A. Connect the printer to an Ethernet switch

Although many printers include built-in Ethernet connectivity, this printer appears to connect over a USB cable. There's no mention of an Ethernet interface, so a switch connection would not be available.

C. Use Print to File and copy the file to the printer

Using Print to File would create a local print file, but that file would need to be manually copied from the Windows computer to the printer. This process would be time consuming and would interrupt the local Windows user each time a print job was needed.

D. Copy the print jobs to a USB drive

Similar to the Print to File option, putting the print jobs on a USB drive would require a manual process by the user connected to the printer. This can be easily avoided by enabling Printer Sharing and having the users submit the print jobs themselves.



More information:

220-1201, Objective 3.7 - Multifunction Devices

<https://professormesser.link/1201030701>

B30. Which of these would commonly be used to connect to an external storage device?

- A. F-connector
 - B. ST
 - C. eSATA
 - D. Molex
-

The Answer: C. eSATA

eSATA (External Serial ATA) is the external version of the SATA standard. The connectors for eSATA are slightly different than the internal SATA connectors.

The incorrect answers:

A. F-connector

An F-connector is the screw-on connector commonly associated with coax used for cable television or cable modems. F-connectors and coax are not commonly used to connect external storage devices.

B. ST

An ST (Straight Tip) connector is an optical fiber connection and is commonly associated with data center connections or extended length network runs.

D. Molex

Molex commonly refers to the four-pin power connection used for internal computer peripherals. Legacy storage devices, fans, and other internal components may use Molex to power the component.



More information:

220-1201, Objective 3.2 - Storage Cables

<https://professormesser.link/1201030206>

B31. A company has acquired computers that were previously part of a third-party lease. All of the computers prompt for a password when powering on the system before the operating system will load, but the password was not included with the computers. Which of the following would be the best way to resolve this issue?

- A. Replace the primary storage drive
 - B. Boot from the Windows installation media
 - C. Reset the BIOS using jumpers on the motherboard
 - D. Disconnect the power cable for ten minutes
-

The Answer: C. Reset the BIOS using jumpers on the motherboard

The BIOS (Basic Input Output System) of a computer can often be assigned configuration or management passwords to prevent any changes to the BIOS settings. The BIOS also supports a boot or user password, and the system will not boot until the correct password is entered. This password can often be reset by shorting a jumper on the motherboard and restarting.

The incorrect answers:

A. Replace the primary storage drive

The BIOS password configuration isn't saved on a storage drive, so replacing the drive will not bypass the password.

B. Boot from the Windows installation media

The boot password applies to all boot media, including any attempts to boot from an optical drive or USB drive.

D. Disconnect the power cable for ten minutes

The password and BIOS configuration is saved on the motherboard in non-volatile memory. Disconnecting the power will not reset the password or change the BIOS configuration.



More information:

220-1201, Objective 3.5 - BIOS Settings

<https://professormesser.link/1201030506>

B32. A user has complained that a laptop will not charge the battery past 25% percent, and the laptop only operates for fifteen minutes when on battery power. The battery and the AC adapter have already been replaced. Which of the following components would be the most likely cause of this issue?

- A.** Motherboard
 - B.** Backlight inverter
 - C.** 802.11 adapter
 - D.** CPU
-

The Answer: **A.** Motherboard

The motherboard on a laptop usually contains all of the major subsystems, including the CPU (Central Processing Unit), memory, video, and power. If the laptop will not charge a battery or power the system, then the entire motherboard will need to be replaced.

The incorrect answers:

B. Backlight inverter

A backlight inverter is used on CCFL (Cold Cathode Fluorescent Lamp) displays to convert the internal laptop DC (Direct Current) power source to AC (Alternating Current). The backlight inverter is not part of the laptop's battery charging system.

C. 802.11 adapter

An 802.11 wireless adapter is usually connected directly to the motherboard, and is responsible for managing the wireless communication to the 802.11 network. A faulty 802.11 adapter would not commonly prevent the laptop battery from charging.

D. CPU

The CPU is the primary processor for the laptop. A CPU does not manage the charging process for a laptop battery, and the charging subsystem can operate even when the laptop is completely powered down.



More information:

220-1201, Objective 5.4 - Troubleshooting Mobile Devices

<https://professormesser.link/1201050401>

B33. A field engineer is working at a remote site that is under construction, but the site does not have an Ethernet or Wi-Fi Internet connection. Which of the following would be the best way to get access to the Internet at this location?

- A. Bluetooth
 - B. Hotspot
 - C. MAN
 - D. NFC
-

The Answer: B. Hotspot

Configuring a mobile phone as a hotspot allows one or more people to use the phone's Internet connection over Wi-Fi. If Internet isn't currently available from another 802.11 wireless network, then using the hotspot feature can provide an option for Internet access.

The incorrect answers:

A. Bluetooth

Bluetooth is a useful personal area network (PAN), but it won't provide any Internet access by itself.

C. MAN

A MAN (Metropolitan Area Network) is a network connecting multiple sites in a single city or metropolitan area. A MAN is usually installed by a network service provider and would not commonly be available to a remote site that's currently under construction.

D. NFC

NFC (Near Field Communication) is a short-range networking method designed to send small amounts of data at a time. It's common to use NFC with a smartphone or smart watch to pay for items in a store, but NFC can't be used to gain Internet access through a smartphone.



More information:

220-1201, Objective 1.2 - Connecting Mobile Devices

<https://professormesser.link/1201010201>

- B34.** Which of the following would be the most likely reason the finishing function of a printer would punch two holes in a page instead of three?
- A. The incorrect paper tray is selected
 - B. The print driver is not configured properly
 - C. The printer is low on toner
 - D. The connection between the computer and the printer is faulty
-

The Answer: **B.** The print driver is not configured properly

Some large printers include finishing features for adding staples or holes to the final document. If the print driver is not set correctly, these options may be placed in the incorrect location or not used at all. The printer driver may need to be reconfigured or updated to support these finishing features.

The incorrect answers:

A. The incorrect paper tray is selected

Many printers include different paper trays and often use different types of paper in each tray. The paper punch occurs after the output is printed, so the choice of paper tray should not cause any issues with the finishing process.

C. The printer is low on toner

If the printer toner is low, the printer will usually show a "low toner" error and the output will print normally. Because the toner is low, the output will usually be a bit more faded than normal. A low toner message would not change the printer's hole punching process.

D. The connection between the computer and the printer is faulty

A faulty connection between the computer and printer will usually result in no output or an interruption to the output process. This will not commonly result in problems with the finishing process.



More information:

220-1201, Objective 5.6 - Troubleshooting Printers

<https://professormesser.link/1201050601>

B35. A technician is upgrading the RAM on a laptop computer. Which of the following would best describe the memory required for this upgrade?

- A. SSD
 - B. SO-DIMM
 - C. Memory card
 - D. ECC
-

The Answer: B. SO-DIMM

The SO-DIMM (Small Outline Dual In-line Memory Module) form factor is about half the length of standard DIMMs. This smaller size makes it a common option for memory modules in laptop computers where size is limited.

The incorrect answers:

A. SSD

An SSD (Solid-state Drive) is used as storage on computing devices and is not a RAM (Random Access Memory) technology.

C. Memory card

Flash memory cards are commonly used as storage and would not be used as primary system memory on a computer.

D. ECC

ECC (Error Correcting Code) memory is a type of RAM that corrects memory errors on the fly. It's common to see ECC RAM used in servers and other important devices, but laptops would not commonly use ECC memory.



More information:

220-1201, Objective 3.3 - An Overview of Memory

<https://professormesser.link/1201030301>

B36. A hospital would like to use a hands-free authentication system based on the user's proximity to the computer. Which of the following technologies would be the best choice for this system?

- A.** NFC
 - B.** 5G
 - C.** MDM
 - D.** SSD
-

The Answer: **A.** NFC

NFC (Near-Field Communication) is a short-distance networking technology which communicates over short distances of approximately 4 centimeters or less. An NFC-based authentication system would recognize when a user comes into close proximity of a device and provide the proper authentication.

The incorrect answers:

B. 5G

The 5G (Fifth Generation) mobile device technology for mobile devices is designed for wide scale communications and does not provide a granular location-based authentication system.

C. MDM

Many organizations will use an MDM (Mobile Device Manager) to provide administration for mobile phones and tablets. The use of an MDM does not provide any hands-free authentication functionality.

D. SSD

An SSD (Solid State Drive) is a flash-based storage device, and it's commonly used on many computing devices. However, an SSD does not provide any proximity-based authentication features.



More information:

220-1201, Objective 2.2 - Wireless Network Technologies

<https://professormesser.link/1201020201>

B37. An IT department is building out a new floor of office space for the company. Which of the following cables would be the best choice to install in the active airspace above the drop ceiling?

- A. Plenum-rated
 - B. Shielded twisted-pair
 - C. Coaxial
 - D. PVC jacketed twisted-pair
-

The Answer: A. Plenum-rated

The plenum space is the area above a drop ceiling used for building air circulation. In the case of a fire, this area should contain objects which have specific characteristics when heated. Network cables in this area are categorized as plenum-rated, and their construction will limit smoke and toxic fumes.

The incorrect answers:

B. Shielded twisted-pair

Shielded twisted-pair cables are useful in environments with high amounts of interference. Shielded twisted-pair cabling isn't the first choice for a drop ceiling, and you wouldn't necessarily find more interference in a drop ceiling than in any other network run.

C. Coaxial

Coaxial cable is a good choice for network runs that need to be shielded and run in a more durable environment, but the bulk and difficulty of managing large coaxial cable drops would not make it a good choice for most local area networks.

D. PVC jacketed twisted-pair

PVC (Polyvinyl chloride) is a common jacket type for twisted-pair cabling, but PVC does not provide any protection or suppression of smoke or chemicals during a fire. PVC jacketed cable would not be a good choice for a plenum.



More information:

220-1201, Objective 3.2 - Network Cables

<https://professormesser.link/1201030201>

B38. A developer is connecting a laptop to an LCD projector, but the projected image is flickering and occasionally part of the output will appear blocky and difficult to read. Which of the following should resolve this issue?

- A. Replace the projector's video cable
 - B. Turn the projector off and back on again
 - C. Update the laptop's video driver
 - D. Connect the laptop to a power source
-

The Answer: A. Replace the projector's video cable

The visual "glitches" displayed by the LCD projector are often associated with a failure of the digital signal. The only connection between the laptop and the projector is the cable, so most of these issues can be resolved by replacing the faulty cable.

The incorrect answers:

B. Turn the projector off and back on again

An LCD (Liquid Crystal Display) projector is displaying what's sent across the video cable, so restarting the projector wouldn't help to resolve the issue. If the problem is associated with a faulty cable, restarting the projector probably won't help either.

C. Update the laptop's video driver

Since the video display is working on the laptop, the issue is probably not related to the driver. Replacing or updating the driver would probably not resolve symptoms associated with flickering or signal issues to an external display device.

D. Connect the laptop to a power source

A low battery or lack of immediate power source would not cause the screen to display artifacts or glitches. Adding additional power to the laptop will help the laptop battery last longer, but it won't change what's displayed on the screen.



More information:

220-1201, Objective 5.3 - Troubleshooting Display Issues
<https://professormesser.link/1201050301>

B39. A graphics designer needs to connect their macOS computer to a second monitor and an external storage drive. Which of the following interface types would provide this connectivity?

- A.** Lightning
 - B.** DisplayPort
 - C.** DVI-D
 - D.** Thunderbolt
-

The Answer: D. Thunderbolt

The Thunderbolt standard was created by Intel to connect external peripherals to a computer at high speeds. The Thunderbolt standard supports many different peripheral types, including displays, external storage, Ethernet network connections, and many others.

The incorrect answers:

A. Lightning

Apple Lightning connections are used to connect a mobile device to a remote peripheral or computer. Lightning connections are not associated with desktop or laptop computers.

B. DisplayPort

As the name implies, DisplayPort connections are commonly used to connect display output devices to computers. DisplayPort is not used to connect external storage devices.

C. DVI-D

DVI-D (Digital Visual Interface-Digital) is used to connect display devices and does not support the connection of external storage devices.



More information:

220-1201, Objective 3.2 - Peripheral Cables
<https://professormesser.link/1201030204>

B40. What cloud-based service provides hardware, but still requires the user to setup, configure, and manage the operating system and applications?

- A. SaaS
 - B. PaaS
 - C. IaaS
 - D. DaaS
-

The Answer: C. IaaS

IaaS (Infrastructure as a Service) is an option that provides CPU, memory, network connections, and storage, and the customer installs and manages all of the software running on the infrastructure hardware.

The incorrect answers:

A. SaaS

SaaS (Software as a Service) is a complete application offering in the cloud. The customer does not install, manage, or support the applications used with a SaaS deployment.

B. PaaS

PaaS (Platform as a Service) is a cloud model for an application framework in the cloud. The customer is responsible for developing their own application based on this cloud-based framework.

D. DaaS

DaaS (Desktop as a Service) provides cloud-based desktop access and centralized workstation management.



More information:

220-1201, Objective 4.2 - Cloud Models

<https://professormesser.link/1201040201>

B41. Which of the following would be most associated with a SAN?

- A. Bluetooth
 - B. RAID
 - C. APIPA
 - D. Cellular
-

The Answer: B. RAID

A SAN (Storage Area Network) provides access to a relatively large storage system over the network. RAID (Redundant Array of Independent Disks) is a common method of providing data redundancy for storage systems.

The incorrect answers:

A. Bluetooth

Bluetooth describes the short-range networks used on many mobile devices. These networks are designed for an individual and are categorized as PANs (Personal Area Networks).

C. APIPA

APIPA (Automatic Private IP Addressing) is used by IPv4 to automatically assign a link-local IP addresses when a DHCP (Dynamic Host Configuration Protocol) server is not available. APIPA is not generally associated with a SAN.

D. Cellular

The connectivity to a SAN often requires high-speed connections, and most cellular links do not provide the required speed or throughput.



More information:

220-1201, Objective 2.7 - Network Types

<https://professormesser.link/1201020702>

B42. A network administrator is using a laptop computer to configure a switch over a direct cable connection. Which of the following would best describe this connectivity?

- A.** Bluetooth
 - B.** Thunderbolt
 - C.** Serial
 - D.** Lightning
-

The Answer: **C.** Serial

Most infrastructure devices provide a management or console interface over a serial link. These have traditionally used DB-9 (D-Subminiature size B - 9 pin) interfaces, but newer devices often use USB (Universal Serial Bus) connections.

The incorrect answers:

A. Bluetooth

Bluetooth technology is a popular wireless networking method, and it would not be an option for a wired terminal or management interface connection.

B. Thunderbolt

Thunderbolt connections are usually associated with video and peripheral connectivity. Thunderbolt is not a common connection type for management or console interfaces.

D. Lightning

A Lightning cable is almost exclusively used for connectivity from an Apple iOS smartphone or iPadOS tablet.



More information:

220-1201, Objective 3.2 - Peripheral Cables

<https://professormesser.link/1201030204>

B43. A manager in the accounting department is complaining of slow performance on her computer. Initial troubleshooting shows low utilization of CPU and memory. A network speed test reports normal throughput to the local network devices. Which of the following would be the best next step for troubleshooting this issue?

- A. Boot to Safe Mode
 - B. Upgrade the BIOS
 - C. Replace the memory modules
 - D. Perform a hard drive diagnostic
-

The Answer: D. Perform a hard drive diagnostic

If a slowdown is not associated with CPU, memory, or the network, then the issue may be with some other type of hardware. A diagnostic of the hard drive would identify any issues that may be slowing down the computer.

The incorrect answers:

A. Boot to Safe Mode

Booting to Safe Mode would only provide limited information about this slowdown problem, and it would not be able to verify that the underlying hardware was working properly. Before attempting to identify software issues, it would be useful to know if the hardware was operating as expected.

B. Upgrade the BIOS

The BIOS of a computer would only require upgrading if there was a significant security requirement or feature enhancement. Most computers will never need a BIOS upgrade, and the BIOS would not commonly be modified when troubleshooting performance issues.

C. Replace the memory modules

Bad RAM (Random Access Memory) modules would cause the system to hang, reboot, or cause operating system or application errors. Faulty RAM would not commonly cause a system to perform slower than normal.



More information:

220-1201, Objective 5.2 - Troubleshooting Storage Devices
<https://professormesser.link/1201050201>

B44. A server administrator has moved a database server from a lab to a data center. After installing the server in a data center rack, the system does not power on. None of the system lights are on, and the power supply and cooling fans do not spin up. Which of the following should be the first troubleshooting step for this issue?

- A.** Replace the power supply
 - B.** Reseat all of the internal components
 - C.** Check the power cable
 - D.** Replace the motherboard
-

The Answer: **C.** Check the power cable

When troubleshooting, the easiest possible solution should usually be the first one to check. This particular system has already been in use, and the system administrator was the person who moved it from one location to another. Of the available options, checking the power cable should be the first thing to check when power issues arise.

The incorrect answers:

A. Replace the power supply

Before replacing hardware, it would be useful to learn more about the issue and what the problem could possibly be.

B. Reseat all of the internal components

Before making any changes or moving things inside of the computer, it would be best to gather more information about the problem. Reseating all of the internal components is time consuming and may not be necessary to resolve the issue.

D. Replace the motherboard

There's nothing in this question that indicates that the issue is related to the motherboard. Before changing any hardware, it would be best to check the simple things first.



More information:

220-1201, Objective 5.1 - Troubleshooting Hardware

<https://professormesser.link/1201050101>

B45. A user is traveling and has enabled airplane mode on their laptop, but they would still like to use their wireless headset. Which of these settings should be enabled to allow this functionality?

- A. Wi-Fi
 - B. USB
 - C. Bluetooth
 - D. Cellular
-

The Answer: C. Bluetooth

Bluetooth networks are PANs (Personal Area Networks) that provide a short-distance connection to local peripherals. For example, it's common to use a Bluetooth link to connect to headsets, wireless mice, keyboards, or speakers.

The incorrect answers:

A. Wi-Fi

Wireless headsets don't commonly use 802.11 Wi-Fi connectivity, and most headsets will use Bluetooth because of the lower power consumption and shorter distance requirement.

B. USB

USB connections are wired links and are not affected by airplane mode.

D. Cellular

Connectivity to cellular networks is useful for Internet or VPN connectivity, but it would not be used for wireless headsets.



More information:

220-1201, Objective 1.2 - Connecting Mobile Devices

<https://professormesser.link/1201010201>

B46. A user has submitted a job to a network printer, but the printer will not begin to print until the user has typed their PIN on the printer console. Which of the following would best describe this scenario?

- A.** Badging
 - B.** Secured prints
 - C.** Active Directory
 - D.** ADF
-

The Answer: **B.** Secured prints

With secured prints, the user can define a PIN (Personal Identification Number) on their computer, and this PIN must be used on the printer to start the printing process. This process ensures the output is not sitting unattended on the printer.

The incorrect answers:

A. Badging

Instead of using a PIN, some printers will require a badge to begin the printing process. This is usually integrated into an identification badge and requires the user to physically scan the badge as authentication before printing.

C. Active Directory

Active Directory is a database for centralized user and device management on a Windows-based network. Active Directory does not inherently provide authentication features for printers or individual print jobs.

D. ADF

An ADF (Automatic Document Feeder) is often used with copiers or scanners to individually feed large groups of pages into a device without any user intervention.



More information:

220-1201, Objective 3.7 - Multifunction Devices

<https://professormesser.link/1201030701>

B47. An error message has appeared when starting up a laptop computer with the message "SMART Failure Predicted." Which of the following would be most related to this notification message?

- A. Storage drive is failing
 - B. RAM failed a memory diagnostic
 - C. Battery life is below 20%
 - D. Network connectivity is intermittent
-

The Answer: A. Storage drive is failing

SMART (Self-Monitoring, Analysis, and Reporting Technology), or S.M.A.R.T., refers to a storage drive monitoring feature integrated with most modern hard drives and solid state drives. A message indicating a SMART error is specific to the storage subsystem of the device.

The incorrect answers:

B. RAM failed a memory diagnostic

Although a quick check of RAM (Random Access Memory) is made during the startup process, any resulting errors would not be categorized as a SMART issue.

C. Battery life is below 20%

The battery life of a laptop can be impacted when running without main power. Problems with the battery are usually identified in the operating system and would not be displayed as a SMART failure.

D. Network connectivity is intermittent

Intermittent network connectivity can impact uptime and availability, but a network communication issue would not be identified as a SMART error.



More information:

220-1201, Objective 5.2 - Troubleshooting Storage Devices

<https://professormesser.link/1201050201>

B48. A system administrator needs to install an access point using PoE. However, the installed Ethernet switch does not support any PoE interfaces. Which of the following would be the best way to provide PoE functionality?

- A.** Use a different access point
 - B.** Replace the switch with a router
 - C.** Upgrade the switch's power supply
 - D.** Add an injector
-

The Answer: **D.** Add an injector

An injector sits inline with an existing wired Ethernet connection to add PoE (Power over Ethernet) voltage to the existing Ethernet cable.

The incorrect answers:

A. Use a different access point

The goal of PoE is to provide power to a device in an area where a traditional power connection would be difficult or impossible. Replacing the access point would not solve the problem of powering the access point.

B. Replace the switch with a router

Switches and routers manage different parts of the communication process, and it's not possible to simply replace a router with a switch without making some changes to the underlying network infrastructure. Adding a router would also not generally provide any PoE functionality.

C. Upgrade the switch's power supply

The power supply of a switch is almost always configured to support all features of the switch without requiring an upgrade. Upgrading or modifying the switch power supply would not add PoE functionality to the switch.



More information:

220-1201, Objective 2.5 - Network Devices

<https://professormesser.link/1201020501>

B49. A network administrator is capturing all network traffic from a specific NIC. Which of the following would best describe the unique network identifier associated with this NIC?

- A.** MAC address
 - B.** APIPA
 - C.** Serial number
 - D.** Subnet mask
-

The Answer: **A.** MAC address

The MAC (Media Access Control) address is a unique identifier burned-in to the NIC (Network Interface Card) hardware. All traffic sent over the network from this device contains the MAC address of this NIC.

The incorrect answers:

B. APIPA

An APIPA (Automatic Private IP Address) is temporarily assigned to a device if an IP address has not been manually configured and a DHCP server is not available to provide IP addresses. An APIPA address is not a unique identifier associated with a NIC.

C. Serial number

A NIC might have a unique serial number, but that serial number is not used as a network identifier. MAC addresses are always used as network-level identification, regardless of what other serial numbers or identifiers may be associated with the NIC.

D. Subnet mask

A device uses the subnet mask to determine its IP subnet.

Subnet masks are not unique, and they don't provide any network identification functionality.



More information:

220-1201, Objective 2.5 - Network Devices

<https://professormesser.link/1201020501>

- B50.** An organization has implemented a cloud solution using a third-party data center. Access to the cloud service is available to anyone on the Internet. Which of the following describes this deployment model?
- A. Hybrid
 - B. Public
 - C. Community
 - D. Private
-

The Answer: B. Public

Public cloud deployments are for organizations that would like to provide services to anyone on the Internet. Google Mail is an example of a public cloud service.

The incorrect answers:

A. Hybrid

Some organizations will provide services to everyone over a public cloud, but provide internal company services on their own private cloud. This type of model is a hybrid cloud deployment.

C. Community

Purchasing and maintaining an infrastructure of cloud resources can be costly, so one common way to split the cost across several organizations is to combine their resources into a community cloud deployment model.

D. Private

A private cloud deployment consists of internal resources that are only available to a limited group or single company.



More information:

220-1201, Objective 4.2 - Cloud Models

<https://professormesser.link/1201040201>

B51. What voltages would be commonly found on a motherboard's power supply connector?

- A. 120 V AC
 - B. 12 V AC, 5 V AC, 3.3 V AC
 - C. 12 V DC, 5 V DC, 3.3 V DC
 - D. 120 V DC
-

The Answer: C. 12 V DC, 5 V DC, 3.3 V DC

A computer's power supply provides direct current (DC) at twelve volts, five volts, and 3.3 volts.

The incorrect answers:

A. 120 V AC

One hundred and twenty volts of alternating current (AC) is a common power configuration from the wall outlet to the power supply input.

Alternating current is not provided at the motherboard power supply connection.

B. 12 V AC, 5 V AC, 3.3 V AC

A motherboard power supply connector does not receive alternating current from the power supply.

D. 120 V DC

A computer motherboard and the associated components do not require one hundred and twenty volts of direct current.



More information:

220-1201, Objective 3.6 - Power

<https://professormesser.link/1201030601>

B52. A user is reporting this message on their Windows computer taskbar icon: "Limited or No connectivity." Which of the following would be the best next troubleshooting step?

- A.** Check the local IP address configuration
 - B.** Restart the computer
 - C.** Ping the default gateway
 - D.** Check the switch VLAN configuration
 - E.** Check for a duplicate IP address
-

The Answer: **A.** Check the local IP address configuration

The message of limited connectivity is usually based on a system with no access to network resources. This often occurs when a system is unable to contact a DHCP (Dynamic Host Configuration Protocol) server and instead assigns itself an APIPA (Automatic Private IP Addressing) address. A check of the local IP address may identify a configuration error or a link-local address.

The incorrect answers:

B. Restart the computer

Restarting the computer might be a good troubleshooting task once the root cause of the issue is identified, but it's not the first step in the troubleshooting process.

C. Ping the default gateway

Pinging the default gateway would probably be a good option once the initial network configuration was validated, but it would not be the next step in the list of troubleshooting tasks.

D. Check the switch VLAN configuration

Most switch VLAN configurations don't change, so verifying the VLAN details would probably not be the next step for troubleshooting.

E. Check for a duplicate IP address

Most operating systems will identify duplicate error messages with a clear notification that a duplicate has been identified on the network.



More information:

220-1201, Objective 5.5 - Troubleshooting Networks

<https://professormesser.link/1201050501>

B53. What kind of device is installed into a computer and directly connects the computer to an Ethernet network?

- A. NIC
 - B. Switch
 - C. Repeater
 - D. Bridge
-

The Answer: A. NIC

A NIC (Network Interface Card) is the hardware used to connect a device to a network. Some NICs are integrated into computer motherboards, and other NICs are separate interface cards.

The incorrect answers:

B. Switch

A switch is a network infrastructure device. Switches are not installed into computer systems.

C. Repeater

Repeaters are infrastructure devices which receive network signals, regenerate the signals, and resend those signals to the next network segment. Repeaters are not usually installed into computers.

D. Bridge

Bridges were devices used prior to the introduction of switches, and bridges are not installed into computers.



More information:

220-1201, Objective 2.5 - Network Devices

<https://professormesser.link/1201020501>

B54. A network administrator is planning to connect the network of two buildings together with a Category 6A cable. Ten Ethernet cables have been run from a wiring closet, through a conduit, and into a wiring closet on the other side. The network administrator needs to identify the ends of the cables so they can be properly terminated on each side. Which of the following should be used to complete this task?

- A.** Cable stripper
 - B.** Loopback plug
 - C.** Tone generator
 - D.** Crimper
-

The Answer: **C.** Tone generator

A tone generator places an analog audio tone onto the wires of a cable, and an inductive probe is used on the other end to precisely identify the cable with the tone. By moving the tone generator to each of the ten cables, the other end of the cable can be easily identified and labeled.

The incorrect answers:

A. Cable stripper

A cable stripper is used to remove the outer layer of a cable and prepare it for the crimping process.

B. Loopback plug

Loopback plugs are commonly used to troubleshoot physical network interfaces. Loopback plugs aren't used for identifying cable runs.

D. Crimper

A crimper is used to attach modular connectors to the ends of cables. Crimpers aren't used to locate the two ends of a cable run.



More information:

220-1201, Objective 2.8 - Network Tools

<https://professormesser.link/1201020801>

B55. A server administrator has configured a database server with a RAID 0 array containing four hard drives. An error notification from the RAID controller states that disk 3 has failed. Which of the following would be the BEST way to address this disk failure?

- A. Replace the drive and re-mirror the array
 - B. Replace the drive and resynchronize the array
 - C. Replace the drive and restore from backup
 - D. Replace all drives and restore from backup
 - E. Replace all drives and resynchronize the array
-

The Answer: C. Replace the drive and restore from backup

RAID 0 (Redundant Array of Independent Disks, Level 0) provides an efficient storage method at the expense of redundancy. Data in RAID 0 is striped across multiple drives, and if one drive is lost the data in the array is also lost. To repair a failed RAID 0 array, the bad drive will need to be replaced and all of the data must be restored from a backup.

The incorrect answers:

A. Replace the drive and re-mirror the array

Since a portion of the data is lost when the RAID 0 drive failed, there's no way to re-mirror the lost data. The RAID 0 data must be restored from backup.

B. Replace the drive and resynchronize the array

A RAID 5 array would maintain parity information if a drive was lost, and RAID 5 data would only need to be resynchronized after replacing the bad drive. Unfortunately, when a RAID 0 drive fails, data is lost and must be restored from backup.

D. Replace all drives and restore from backup

Only the bad drive would need to be replaced when recovering from any drive failure with RAID arrays.

E. Replace all drives and resynchronize the array

Only the bad drive would need to be replaced when recovering from any drive failure with RAID arrays. Replacing perfectly good drives would be an unnecessary and costly step.



More information:

220-1201, Objective 5.2 - Troubleshooting Storage Devices

<https://professormesser.link/1201050201>

B56. A company is installing a new communications link using SC interfaces. Which of the following would best describe this connection?

- A.** Fiber optic
 - B.** USB-C
 - C.** 10GBASE-T
 - D.** M.2
-

The Answer: **A.** Fiber optic

An SC (Subscriber Connector) interface is a common fiber optic connection type. Some network administrators refer to this connection as the "square connector" due to the unique shape of the interface.

The incorrect answers:

B. USB-C

The USB-C (Universal Serial Bus Type-C) interface is the name of the connection used for many different types of signals, including USB, Thunderbolt, and others. The USB-C interface is not associated with the SC connector type.

C. 10GBASE-T

10GBASE-T is the Ethernet standard for 10 gigabit per second Ethernet over twisted pair copper wiring. Fiber optic SC connectors would not be used for a twisted pair copper network connection.

D. M.2

The M.2 interface is a motherboard interface specification and is not associated with fiber optic links or SC connectors.



More information:

220-1201, Objective 3.2 - Fiber Connectors

<https://professormesser.link/1201030209>

B57. A technician believes the photosensitive drum on a networked laser printer is scratched. Which of the following helped the technician identify this issue?

- A.** Garbled text
 - B.** Toner not sticking to the paper
 - C.** Grinding noises
 - D.** Solid line down the printed page
-

The Answer: **D.** Solid line down the printed page

A scratched photosensitive drum in a laser printer will cause toner to attach itself to that scratch. This additional toner appears as a single line running down the length of the laser printer output.

The incorrect answers:

A. Garbled text

Laser printer output containing garbled text is likely due to a mismatch of the page description language. Garbled text would not indicate any issues with the photosensitive drum.

B. Toner not sticking to the paper

Toner is permanently attached to the paper using heat and pressure at the end of the printing process. Toner not sticking to the paper would indicate an issue with this fusing process and not with the photosensitive drum.

C. Grinding noises

Grinding noises usually indicate some type of mechanical problem inside of the printer, and this usually results in a paper jam or printing issue. A grinding noise would not commonly be associated with a scratch on a photosensitive drum.



More information:

220-1201, Objective 5.6 - Troubleshooting Printers

<https://professormesser.link/1201050601>

B58. An application developer is designing an app which uses three servers running simultaneously as VMs on her desktop. An upgrade to the application will add three additional servers to the list of running VMs. Which of these hardware resources will be the most important for this upgrade?

- A. Video adapter
 - B. Network connection
 - C. RAM
 - D. CPU
-

The Answer: C. RAM

Without any additional information about the applications, the most critical resource for these new servers will be the amount of RAM required to keep all of the operating systems running simultaneously.

The incorrect answers:

A. Video adapter

There's no mention of additional video requirements, so the standard video used for the virtual machines would be sufficient, even when adding three additional servers.

B. Network connection

Network connectivity was not mentioned as a priority, and it's possible the new servers would only use a minimal amount of network resources.

D. CPU

CPU would probably be the second-most important resource for these new servers, but there was no information provided regarding CPU usage on these servers. In this example, it's possible that the individual servers operate with a minimal amount of CPU usage.



More information:

220-1201, Objective 4.1 - Virtualization Services

<https://professormesser.link/1201040102>

B59. A company has experienced a significant increase in printing costs over the last few months. Which of the following would provide the best way to track and manage these costs?

- A.** Audit logs
 - B.** Print spooler uptime
 - C.** Power usage monitor
 - D.** Packet captures
-

The Answers: **A.** Audit logs

Audit logs can be used to provide detailed information about print jobs, number of pages printed, the usernames submitting the print jobs, and much more. Tracking printer resource usage can use logs from the user's operating systems or from the printer itself.

The incorrect answers:

B. Print spooler uptime

A print spooler service is commonly used in Windows to manage the printing process, but monitoring the uptime of the service doesn't provide any specific information about the number of print jobs or resources used.

C. Power usage monitor

Printers certainly use power when printing, but it's not possible to correlate resource usage or printer costs by examining the power usage.

D. Packet captures

A packet capture can provide a great deal of information about data traversing the network, but it doesn't provide an easy way to monitor printer resources or printing costs.



More information:

220-1201, Objective 3.7 - Multifunction Devices
<https://professormesser.link/1201030701>

B60. A network engineer is troubleshooting an issue communicating to the Internet over a newly installed DSL connection. A laptop is connected to a DSL router over twisted pair copper. The IP configuration of the laptop is:

IP address: 169.254.228.109

Subnet mask: 255.255.0.0

DNS: 9.9.9.9

Which of the following should be the next troubleshooting step?

- A.** Reset the DSL modem
 - B.** Modify the subnet mask
 - C.** Change the DNS server address
 - D.** Check the status of the DHCP server
-

The Answer: D. Check the status of the DHCP server

A DHCP (Dynamic Host Configuration Protocol) server automatically distributes IP addresses to new devices connecting to a network. If the DHCP server isn't available, a device will commonly auto-configure itself with an APIPA (Automatic Private IP Addressing) address. Addresses between the range of 169.254.1.0 through 169.254.254.255 are assigned to devices using APIPA.

The incorrect answers:

A. Reset the DSL modem

There's nothing in the configuration settings that would indicate an issue with the DSL modem. If the DHCP service isn't available, then a similar APIPA address will still be assigned to the laptop.

B. Modify the subnet mask

The subnet mask in this exam has been assigned through the APIPA process, and changing the mask wouldn't solve the issue of communicating to the Internet.

C. Change the DNS server address

Because the APIPA addressing limits communication to the local subnet, changing the DNS server configuration would not solve this communications issue.



More information:

220-1201, Objective 2.6 - Assigning IP addresses

<https://professormesser.link/1201030701>

B61. A user in the accounting department has configured their mobile phone as a hotspot. Which of these would best describe this configuration?

- A.** Use the phone as a method of payment
 - B.** Fast-charge the phone
 - C.** Access the Internet through the phone
 - D.** Connect to external speakers
-

The Answer: **C.** Access the Internet through the phone

Many smartphones include a hotspot feature, allowing a user to turn their phone into an Internet router. The phone provides access to the Internet over the cellular network, and other devices can use this Internet link by connecting to the smartphone over 802.11 wireless.

The incorrect answers:

A. Use the phone as a method of payment

NFC (Near Field Communication) is a short-range wireless network commonly used to provide payments at a store's point of sale or credit card terminal.

B. Fast-charge the phone

Although some phones can be quickly charged with the right charger, a hotspot is not related to the battery charging process.

D. Connect to external speakers

Many mobile device external speakers are used with Bluetooth or through a direct cable connection. A hotspot is not related to external speakers or any audio output features.



More information:

220-1201, Objective 1.2 - Connecting Mobile Devices
<https://professormesser.link/1201010201>

B62. A user has logged into their laptop using a fingerprint reader on the laptop's keyboard tray. Which of the following would best describe this technology?

- A. NFC
 - B. GPS
 - C. Screen digitizer
 - D. Biometrics
-

The Answer: D. Biometrics

Biometrics provide a way to authenticate using something physical about a person. Some common biometric systems will evaluate a fingerprint, face recognition, or other physical trait to complete the authentication process.

The incorrect answers:

A. NFC

NFC (Near-Field Communication) is a short-range networking technology used for payment systems, proximity activation, or small data transfers. NFC is not generally associated with fingerprint readers.

B. GPS

A GPS (Global Positioning System) feature in a smartphone can accurately display the device's location. This feature can sometimes be used during authentication to verify a location, but a GPS is not directly associated with a fingerprint reader.

C. Screen digitizer

A digitizer is designed to take an analog input and convert it to a digital signal to be used by the computing device. A digitizer on a display can allow direct input through touch or finger presses.



More information:

220-1201, Objective 1.1 - Laptop Hardware

<https://professormesser.link/1201010101>

B63. An organization has recently implemented a browser-based email system that requires no additional software on the user devices. Which of the following would describe this type of application?

- A. SaaS
 - B. IaaS
 - C. HaaS
 - D. PaaS
-

The Answer: A. SaaS

SaaS (Software as a Service) is on-demand software. The client does not maintain a local software installation, and the application support is managed by the service provider. Google Mail is an example of SaaS.

The incorrect answers:

B. IaaS

IaaS (Infrastructure as a Service) provides hardware resources to the end user, and the user is responsible for installing an operating system and an application. A web hosting provider offering a bare metal server would be an example of IaaS.

C. HaaS

HaaS (Hardware as a Service) is another term for IaaS. A user is provided CPU, memory, and storage with HaaS, and will usually install an operating system and application on the hosted hardware infrastructure.

D. PaaS

PaaS (Platform as a Service) provides the building blocks for application developers. The servers and software are managed by the service provider, and the user is responsible for putting together the application modules to fit their needs. SalesForce.com offers a number of PaaS products.



More information:

220-1201, Objective 4.2 - Cloud Models

<https://professormesser.link/1201040201>

B64. What type of power supply can operate across countries using different voltages?

- A. High-voltage
 - B. Primary
 - C. Modular
 - D. Voltage switching
-

The Answer: D. Voltage switching

An auto voltage switching power supply can automatically detect and use different input voltages without the need to manually select an input voltage. This is especially useful when moving equipment in countries with 120 volts of AC (alternating current) to a country using 240 volts of AC.

The incorrect answers:

A. High-voltage

All power supplies are considered to be high-voltage. The type of power supply used with different voltages would best be described as auto voltage switching.

B. Primary

Infrastructure devices such as servers or switches may have multiple power supplies for redundancy. In these systems, one power supply may be the primary supply, and the other power supply would be the secondary supply.

C. Modular

A modular power supply does not have any cables permanently attached to the power supply unit. Cables can be added or removed as needed to maximize the airflow inside of the computer system.



More information:

220-1201, Objective 3.6 - Computer Power

<https://professormesser.link/1201030601>

B65. A user is reporting after starting their desktop, they receive the message "Windows has detected an IP address conflict." Which of the following would be the BEST way to resolve this issue?

- A. Replace the Ethernet patch cable
 - B. Enable DHCP on the workstation
 - C. Bounce the switch port
 - D. Reboot the default gateway
-

The Answer: B. Enable DHCP on the workstation

One of the more useful features of a DHCP (Dynamic Host Configuration Protocol) server is the controlled assignment of IP (Internet Protocol) addresses. If the DHCP server is assigning all IP addresses, then a duplicate is unlikely. If a device is configured for manual addressing, then configuring the device to receive IP addresses via DHCP can avoid possible address duplication.

The incorrect answers:

A. Replace the Ethernet patch cable

A bad patch cable might limit communication to a network, but it would not create an IP address conflict.

C. Bounce the switch port

"Bouncing" a switch port involves disabling and re-enabling the interface, and this is effectively the same thing as turning a computer off and back on again. If a manual IP address is configured, then the IP address conflict will still be in place when the computer restarts or the link is re-enabled.

D. Reboot the default gateway

An IP address conflict is an issue on the network devices, and restarting the default gateway will not resolve the conflict.



More information:

220-1201, Objective 2.6 - Assigning IP Addresses

<https://professormesser.link/1201020602>

- B66.** Each time a user logs in, they must insert their company ID card to a USB card reader to complete the authentication. Which of the following would best describe the technology used for this authentication?
- A. 802.11
 - B. Bluetooth
 - C. SMB
 - D. RFID
-

The Answer: D. RFID

RFID (Radio Frequency Identification) uses a small electronic tag to provide an identification number to an RFID reader. Many company ID cards include an RFID chip inside of the card itself.

The incorrect answers:

A. 802.11

802.11 wireless networks are commonly used for network communication, but the connection to the 802.11 network does not require an ID card or an external card reader.

B. Bluetooth

A Bluetooth connection would commonly consist of wireless connections to peripherals. In this example, the ID card is inserted into a physical card reader.

C. SMB

SMB (Server Message Block) is a protocol commonly used to share files and printers on a Microsoft network. SMB is not used to validate or scan information contained on a company ID card.



More information:

220-1201, Objective 2.2 - Wireless Network Technologies
<https://professormesser.link/1201020201>

B67. Which of the following connectors would be used to terminate a copper Ethernet patch cable?

- A. BNC
 - B. Lightning
 - C. RJ45
 - D. DB-9
-

The Answer: C. RJ45

Copper Ethernet cables are commonly terminated with an 8P8C (Eight Position / Eight Conductor) RJ45 (Registered Jack 45) standard connector.

The incorrect answers:

A. BNC

BNC (Bayonet Neill–Concelman) connectors are commonly used for coaxial cables. The bayonet on a BNC connector twists and locks onto a BNC interface to ensure a solid connection.

B. Lightning

Lightning connectors are proprietary to Apple and are commonly found on legacy iPhone and iPad devices. Lightning connectors are not commonly associated with Ethernet connections.

D. DB-9

DB-9 connections are technically DE-9 connections, although the industry has historically combined the names of the DB-25 and DE-9 to incorrectly name a DE-9 connector as DB-9. DB-9/DE-9 connectors are not used to terminate Ethernet connections, and are more commonly used for serial communication.



More information:

220-1201, Objective 3.2 - Copper Connectors

<https://professormesser.link/1201030208>

B68. A user has started their laptop, but the screen is completely covered with colored lines and flashing colors. Which of the following would best resolve this issue?

- A.** Replace the laptop screen
 - B.** Enable the display's scaling option
 - C.** Change the output resolution
 - D.** Disable the dynamic color temperature option
-

The Answer: **A.** Replace the laptop screen

A damaged LCD display will often show colored lines, flashing colors, or have visible cracks on the screen. Unfortunately, the only way to resolve this type of issue is to completely replace the LCD screen.

The incorrect answers:

B. Enable the display's scaling option

The scaling option will make the screen image smaller or larger, but it would not create colors lines or flashing colors.

C. Change the output resolution

The output resolution would change the size of the desktop and other screen items. Changing the resolution would not commonly cause the display to show flashing colors or colored lines.

D. Disable the dynamic color temperature option

Many operating systems will change color temperatures throughout the day to help with eye strain and minimize bright screens during evening hours. These features would not common cause a screen to show flashing colors or colored lines.



More information:

220-1201, Objective 5.3 - Troubleshooting Display Issues

<https://professormesser.link/1201050301>

B69. A system administrator has just received a laptop previously sent out for repair. However, after powering on the computer, the laptop no longer responds to the stylus. Which of the following is the most likely reason for this issue?

- A. The GPU requires an updated device driver
 - B. The display needs a new inverter
 - C. The display needs to be paired to the laptop motherboard
 - D. The digitizer is faulty
-

The Answer: D. The digitizer is faulty

The digitizer converts the touch of a finger or a stylus to digital signals used by the computer. If the digitizer is not operational, then the screen will not be able to interpret the input from a stylus.

The incorrect answers:

A. The GPU requires an updated device driver

Updating an existing device driver will not generally provide additional features or functionality such as finger or stylus input.

B. The display needs a new inverter

The inverter in a CCFL (Cold Cathode Fluorescent Lamp) LCD (Liquid Crystal Display) is used to convert DC (Direct Current) power to AC (Alternating Current) for the backlight. If the laptop had a bad inverter, the information on the screen would be almost impossible to read because of the missing backlight.

C. The display needs to be paired to the laptop motherboard

A laptop display is physically connected to the rest of the laptop and does not require any separate pairing process to use touch or stylus input.



More information:

220-1201, Objective 5.4 - Troubleshooting Mobile Devices

<https://professormesser.link/1201050401>

B70. A graphics designer has noticed that small dots on their screen remain a solid black color, even when the image should display a different color. Which of the following would describe this issue?

- A.** Burn-in
 - B.** Non-native resolution
 - C.** Incorrect data source
 - D.** Dead pixel
-

The Answer: D. Dead pixel

A dead pixel is a single dot (pixel) on the screen that always remains black and does not change with the image.

The incorrect answers:

A. Burn-in

If a display shows a single image over a long period of time, it's possible for the image to remain visible on the screen when the output changes. This ghosting effect can sometimes be permanently "burned-in" to the display.

B. Non-native resolution

Using an LCD monitor at a non-native resolution will cause the image to appear skewed or blurry. A non-native resolution setting would not cause a single pixel to appear black.

C. Incorrect data source

Many monitors can support video input from different sources. If the source is not set correctly, the screen will often be completely black or a message will appear stating an input signal is not active on that interface.



More information:

220-1201, Objective 5.3 - Troubleshooting Display Issues

<https://professormesser.link/1201050301>

B71. A gaming enthusiast has upgraded his home computer from integrated graphics to a separate video adapter card. The computer operates as expected for web browsing and word processing applications. However, playing a game results in the system shutting down after a few minutes of operation. Which of the following would be the most likely component causing this issue?

- A. CPU
 - B. Power supply
 - C. RAM
 - D. SSD
-

The Answer: B. Power supply

Adding additional components to a computer can often increase the power usage, and video adapter cards are one of the most power-hungry devices you can add to a computer. If a system is displaying errors or shutting down during periods of heavy use, then the issue is commonly related to heat or power.

The incorrect answers:

A. CPU

A common symptom of a bad CPU (Central Processing Unit) would be application and operating system errors. A faulty CPU would not commonly cause the entire computer to shut down.

C. RAM

Faulty RAM (Random Access Memory) can cause application and operating system errors, and it's common to see Windows Stop errors randomly appear with bad RAM. Bad memory would not commonly cause a computer to completely shut down.

D. SSD

A bad SSD (Solid State Drive) would show file system errors in the operating system or application. A problematic SSD would not commonly cause a computer to shut down.



More information:

220-1201, Objective 5.1 - Troubleshooting Hardware

B72. A network administrator has just installed a new access point in a downtown office building, but now users are reporting intermittent connectivity to the Internet. Which of the following would be the first thing to check?

- A.** SSID broadcast option
 - B.** Firmware version
 - C.** MAC filter
 - D.** Channel interference levels
-

The Answer: **D.** Channel interference levels

In areas with many different organizations located near each other, it's possible that the frequencies used on different wireless access points could conflict with each other and cause interference with wireless communication. In busy areas, it's recommended to perform an analysis of the frequencies in use before installing a new access point.

The incorrect answers:

A. SSID broadcast option

The SSID (Service Set Identifier) broadcast is used to populate the list of available wireless networks. Enabling or disabling the SSID broadcasts would not cause intermittent connectivity over the wireless network.

B. Firmware version

A firmware update in the access point might offer a performance modification, security patch, or a bug fix. However, most normal wireless operations would not be changed through a firmware update, and a firmware update would most likely not resolve an issue with intermittent connectivity.

C. MAC filter

MAC (Media Access Control) filters are used to administratively control physical devices from accessing the wireless network. A MAC address would not cause intermittent connectivity for existing devices, however.



More information:

220-1201, Objective 5.5 - Troubleshooting Networks

<https://professormesser.link/1201050501>

B73. A company would like to advertise a list of email servers authorized to send messages on their behalf. Which of the following would be the best way to provide this information?

- A.** APIPA
 - B.** Proxy server
 - C.** UTM
 - D.** SPF record
-

The Answer: D. SPF record

An SPF (Sender Policy Framework) record is part of a DNS (Domain Name System) server configuration, and it lists all servers authorized to send emails for a particular domain.

The incorrect answers:

A. APIPA

An APIPA (Automatic Private IP Addressing) assignment is used to provide a link-local IP address when no other IP address configuration is available. The APIPA process is not associated with email authorizations.

B. Proxy server

A proxy server is a device that makes requests to a service on behalf of a user. The proxy performs the request and provides the results back to the client. Proxy servers are not used to advertise a list of authorized email servers.

C. UTM

A UTM (Unified Threat Management) device is the precursor to the modern NGFW (Next-Generation Firewall), and they often include many different functions in a single device. UTMs are not commonly used to advertise a list of authorized email servers.



More information:

220-1201, Objective 2.4 - DNS Configuration

<https://professormesser.link/1201020401>

B74. A company assigns IP addresses automatically to each device, and those addresses will remain on the device for a minimum of 8 hours. Which of the following best describes this configuration?

- A.** Subnet mask
 - B.** Lease
 - C.** SDN
 - D.** Reservation
-

The Answer: B. Lease

A lease is used in DHCP (Dynamic Host Configuration Protocol) to automatically associate an IP address configuration with a specific device for a certain amount of time. The device usually has the option to renew the lease to extend the configuration settings for another interval.

The incorrect answers:

A. Subnet mask

A subnet mask is used in conjunction with an IP address to associate a network device with a particular IP subnet. Subnet masks are not used to define the lease time for automatically assigned IP addresses.

C. SDN

An SDN (Software Defined Network) provides a method of implementing the functions of a physical infrastructure product into software. This process focuses on creating a software-based networking infrastructure in a cloud environment.

D. Reservation

An IP reservation is used by DHCP to always assign the same IP address to a specific device. DHCP reservations match the MAC (Media Access Control) address of a device to a reserved IP address.



More information:

220-1201, Objective 2.4 - DHCP

<https://professormesser.link/1201020402>

B75. Users in the marketing department are reporting that one network printer is not working. There are many print jobs in the queue, but none of the jobs are printing. A test print from the printer's front panel does not print any pages. What is the most likely reason for this printing issue?

- A.** Printer drivers need to be updated
 - B.** Network is disconnected
 - C.** Printer hardware has failed
 - D.** Print spooler needs to be restarted
-

The Answer: **C.** Printer hardware has failed

If the printer was operational, then a printer test from the front panel should provide some output. The test print bypasses the network and print spooler and provides a check for print quality. If the local test print isn't working, then the printer itself has some type of hardware failure.

The incorrect answers:

A. Printer drivers need to be updated

The printer drivers are loaded on client workstations to properly format a print job for the printer. An incorrect printer driver would not prevent the test print from working properly.

B. Network is disconnected

A disconnected network would certainly cause all of the print jobs to be waiting in the print queue, but it would not prevent the printer from processing a test print from the front panel of the printer.

D. Print spooler needs to be restarted

A failed print spooler would be another reason for jobs to be stuck in the queue, but the test prints should still work properly from the printer's front console panel.



More information:

220-1201, Objective 5.6 - Troubleshooting Printers

<https://professormesser.link/1201050601>

B76. A member of the accounting department would like to work remotely while attending a conference in another city. Which of these technologies would best provide this functionality?

- A.** VLAN
 - B.** 802.11
 - C.** VPN
 - D.** PAN
-

The Answer: C. VPN

A VPN (Virtual Private Network) would allow a remote user to connect to the corporate office over a secure encrypted tunnel.

The incorrect answers:

A. VLAN

A VLAN (Virtual Local Area Network) is a common way to segment devices on a switched network. VLANs do not provide any remote access functionality.

B. 802.11

802.11 wireless networks are commonly used at conferences and hotels, but the wireless network itself does not provide any remote access capabilities. A VPN would operate over a wired or wireless network to provide a secure remote access connection.

D. PAN

A PAN (Personal Area Network) is commonly associated with devices located in close proximity of each other. For example, the connection to a Bluetooth headset is a PAN.



More information:

220-1201, Objective 2.4 - VLANs and VPNs
<https://professormesser.link/1201020403>

- B77.** In which of the following situations would you be most likely to use a network tap?
- A. Attach an RJ45 connector to the end of an Ethernet cable
 - B. Capture packets from a network link
 - C. Test packet loss on a router interface
 - D. Locate a specific workstation connection on a punch-down block
-

The Answer: B. Capture packets from a network link

A network tap provides a physical connection for intercepting network traffic. The tap can send a copy of the intercepted traffic to a packet capture device or security tool.

The incorrect answers:

A. Attach an RJ45 connector to the end of an Ethernet cable

A crimper is used to attach connectors to the end of a cable. A network tap does not attach connectors to a cable.

C. Test packet loss on a router interface

A loopback cable or loopback connector can be used to troubleshoot problems with a physical interface. When data is sent out of the interface, the loopback cable redirects the signal back to the same interface.

D. Locate a specific workstation connection on a punch-down block

Finding the needle in a haystack of cables is made much easier by using a tone generator and an inductive probe.



More information:

220-1201, Objective 2.8 - Network Tools

<https://professormesser.link/1201020801>

B78. A digital graphics department has been using a SAN to store their image files. The team now reports that all of the files on the SAN are no longer accessible. Which of the following should be the first thing to check on the SAN?

- A.** RAID array status
 - B.** CPU utilization
 - C.** Input voltage
 - D.** Cache hits
-

The Answer: **A.** RAID array status

A SAN (Storage Area Network) is a network-connected storage array. If the SAN is unavailable, then it's possible that the drive array is having a technical issue. The first thing to check on the SAN is the RAID array health and network connectivity. Once those are verified to be working, the troubleshooting can continue.

The incorrect answers:

B. CPU utilization

A high amount of CPU utilization on the SAN could cause the system to perform slowly, but the drive array would usually still be available on the network. A SAN is usually a single-purpose system, and it would not be common to experience high utilization.

C. Input voltage

The input voltage of a device is determined during the installation process, and it would be very unusual for the voltage to change. A power-related issue on a device might be a power supply failure or an issue with the power cable. An input voltage issue would not commonly be the first thing to check.

D. Cache hits

Caching is designed to improve performance when reading or writing to a drive. A caching problem may cause performance to suffer, but the data would still be available to users.



More information:

220-1201, Objective 5.2 - Troubleshooting Storage Devices

<https://professormesser.link/1201050201>

B79. A network administrator is installing a new access point between buildings. Which of the following would determine the usable frequencies and maximum signal strength for this connection?

- A.** End User License Agreement
 - B.** Type of data transferred
 - C.** Acceptable Use Policy
 - D.** Government regulations
-

The Answer: **D.** Government regulations

Most governments will regulate the usable frequencies and maximum power for the wireless spectrum. These regulations can vary depending on location, frequencies, or type of network.

The incorrect answers:

A. End User License Agreement

An End User License Agreement (EULA) is usually associated with the use of software. The developer will require the user to agree to a series of terms and conditions before the software can be used.

B. Type of data transferred

The type of data transferred over a wireless network does not determine which frequencies can be used or the power of the wireless signal.

C. Acceptable Use Policy

An Acceptable Use Policy (AUP) is used by companies to set guidelines on the use of technology in the organization. The AUP does not determine usable frequencies or signal strengths.



More information:

220-1201, Objective 2.2 - Wireless Network Technologies
<https://professormesser.link/1201020201>

B80. A network administrator is pinging a site on the Internet and receives these results:

```
C:\Users\professor>ping 9.9.9.9

Pinging 9.9.9.9 with 32 bytes of data:
Reply from 9.9.9.9: bytes=32 time=618ms TTL=128
Reply from 9.9.9.9: bytes=32 time=816ms TTL=128
Reply from 9.9.9.9: bytes=32 time=627ms TTL=128
Reply from 9.9.9.9: bytes=32 time=727ms TTL=128

Ping statistics for 9.9.9.9:
    Packets: Sent = 4, Received = 4, Lost = 0 (0% loss),
    Approximate round trip times in milli-seconds:
        Minimum = 618ms, Maximum = 816ms, Average = 697ms
```

Which of the following would best describe the state of this network connection?

- A.** Dropped packets
 - B.** Excessive latency
 - C.** Port flapping
 - D.** Network loop
-

The Answer: **B.** Excessive latency

An average response time of 697 milliseconds is relatively long, especially considering that most local devices will respond in 1 or 2 milliseconds. This large response time indicates significant latency between the local device and the remote site.

The incorrect answers:

A. Dropped packets

This ping output shows that four packets were sent and four were received, so no packets were dropped during this test.

C. Port flapping

Port flapping describes an Ethernet interface constantly disconnecting and reconnecting on a switch. This disconnection would most likely result in dropped packets.

D. Network loop

A loop on the network would commonly cause the TTL (Time to Live) value to decrease to zero and cause a router to drop the zero TTL packets. This would commonly cause the ping to fail with no replies from the remote location.



More information:

220-1201, Objective 5.5 - Troubleshooting Networks

<https://professormesser.link/1201050501>

- B81.** A system administrator needs to upgrade the hard drives in a RAID array. Which of the following would be the best measurement of read and write times on the new hard drives?
- A.** S. M. A. R. T.
 - B.** Jitter
 - C.** IOPS
 - D.** RPM
-

The Answer: **C.** IOPS

IOPS (Input/Output Operations Per Second) is a measure of read and write performance, and it provides a good comparison of performance between different storage devices.

The incorrect answers:

A. S. M. A. R. T.

S. M. A. R. T. (Self-Monitoring, Analysis, and Reporting Technology) statistics can provide information on the health and overall operation of a storage device, but S. M. A. R. T. does not provide extensive performance measurements.

B. Jitter

Jitter is a measurement of the delay between network frames. Jitter information does not provide any direct performance measurements of storage devices.

D. RPM

The RPM (Revolutions per Minute) of a storage drive can be a very broad measure of performance, but it doesn't provide any details about the speed of reading and writing data to the drive.



More information:

220-1201, Objective 5.2 - Troubleshooting Storage Devices
<https://professormesser.link/1201050201>

B82. A user normally stores files in their H: drive, but the drive letter is not appearing in File Explorer. Which of the following would be the most likely reason for this issue?

- A. Local drive performance is slow
 - B. Login script did not run
 - C. A drive in a RAID 1 array has failed
 - D. The share is already in use
-

The Answer: B. Login script did not run

The login script is often used to configure a user's work environment, including the mapping of network shares to a drive letter.

The incorrect answers:

A. Local drive performance is slow

Poor performance of a drive on a local computer might cause the system to be slower than other devices, but it wouldn't directly prevent the system from mapping drives during the login process.

C. A drive in a RAID 1 array has failed

A RAID 1 array mirrors the drive data, so losing a single drive would not have any affect on the data availability or the mapping of any network share drive letters.

D. The share is already in use

A single network share can be used by many devices simultaneously, and some computers might even include the same share on multiple drive letters.



More information:

220-1201, Objective 5.2 - Troubleshooting Storage Devices

<https://professormesser.link/1201050201>

B83. A user's desktop computer does not start in the morning when the power button is pressed. A technician notices that the screen remains dark, but fans are spinning inside of the computer case. No messages are displayed and no beeps are heard. Which of the following would be the most likely reason for this issue?

- A.** Faulty RAM
 - B.** No boot drive found
 - C.** The CPU is overheating
 - D.** Bad power supply
-

The Answer: **D.** Bad power supply

A bad power supply can sometimes provide power for some voltages but not others. If the fans are running but no other devices are working, then a bad power supply should be a consideration.

The incorrect answers:

A. Faulty RAM

During POST (Power On Self Test), critical components like CPU (Central Processing Unit) and RAM (Random Access Memory) are tested. If the test fails, the system will beep and a message may appear on the screen. In this example, no messages are shown and there are no beep codes to signify a memory issue.

B. No boot drive found

A missing boot drive would display a message on the screen such as, "Default Boot Device Missing," or similar information.

C. The CPU is overheating

This system is not starting up in the morning, so there's no opportunity for the CPU to become overheated. It would take a few minutes of operation for a faulty cooling system to cause the CPU to become too hot and shut down.



More information:

220-1201, Objective 5.1 - Troubleshooting Hardware

<https://professormesser.link/1201050101>

B84. A user in the shipping department needs a charging cable for their Android phone. Which of the following connectors would be the most likely to work on this phone?

- A. USB-C
 - B. Lightning
 - C. RJ45
 - D. Thunderbolt
-

The Answer: A. USB-C

Android devices commonly used the USB standard for connectivity, and USB-C is a common connector for many mobile devices.

The incorrect answers:

B. Lightning

Lightning connectors are proprietary to Apple. You'll see Lightning connections used exclusively on iOS devices.

C. RJ45

RJ45 (Registered Jack 45) is a standard connector type most commonly seen on Ethernet network cables. RJ45 would not commonly be used on mobile phones.

D. Thunderbolt

Thunderbolt connectors are common on desktop computers, but the Thunderbolt technology isn't used on smartphone connectors.



More information:

220-1201, Objective 1.2 - Connecting Mobile Devices

<https://professormesser.link/1201010201>

B85. A company has installed a page scanner that outputs the scanned files to SMB. Which of the following would be the most likely destination for these scanned images?

- A.** Cloud storage
 - B.** Windows share
 - C.** eSATA drive
 - D.** Network printer
 - E.** Email inbox
-

The Answer: **B.** Windows share

Windows uses the SMB (Server Message Block) protocol to transfer files between other Windows devices. SMB is commonly used to transfer files to a Windows share.

The incorrect answers:

A. Cloud storage

Because of the many operating systems used to access the files, cloud storage does not commonly use SMB for file transfers.

C. eSATA drive

eSATA (External Serial AT Attachment) is a connection type for external removable storage drives. A network scanner would not commonly save files to an eSATA drive.

D. Network printer

Creating a digital image from a physical page and then printing the digital image is probably not the most efficient use of the scanning process.

E. Email inbox

Although it's common for network scanners to email the scanned images, the use of SMB as the output type would not be associated with email.



More information:

220-1201, Objective 3.7 - Multifunction Devices

<https://professormesser.link/1201030701>

B86. A workstation administrator has been asked to troubleshoot an issue with Internet connectivity on a laptop computer. The network status in the taskbar shows a yellow exclamation mark with the message “No Internet access.” When examining the Ethernet connection on the laptop, the cable sheath is an inch short and individual copper wires are visibly disconnected from the RJ45 connector. Which of the following should be used to correct this issue?

- A.** Crimper
 - B.** Punch-down tool
 - C.** Loopback plug
 - D.** Cable tester
-

The Answer: **A.** Crimper

A crimper is used to attach modular connectors to the end of cables. In this example, the cable would be cut back past the missing cable sheath and the wires would be attached to a new connector using an RJ45 crimper.

The incorrect answers:

B. Punch-down tool

Punch-down tools are used to reconnect wires, but only to punch-down blocks such as 66 blocks or 110 blocks. For device connections, a crimper is the only way to attach a new RJ45 connector.

C. Loopback plug

A loopback plug is used to test the physical interface of a device when troubleshooting. A loopback plug isn't used to repair or replace the RJ45 connector on a cable.

D. Cable tester

A cable tester can check for continuity and may be able to build a wire map of a cable, but a cable tester cannot be used to correct or crimp a connector onto the end of an Ethernet cable.



More information:

220-1201, Objective 2.8 - Network Tools

<https://professormesser.link/1201020801>

B87. A network administrator needs to connect two sites located on opposite sides of the city. Which of these network connections would be the most appropriate?

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

The Answer: **A. MAN**

A MAN (Metropolitan Area Network) connects locations in the same city or metropolitan area. Once the distance is outside the scope of the immediate metro area, the connection is categorized as a WAN (Wide Area Network).

The incorrect answers:

B. PAN

A PAN (Personal Area Network) describes the connection between our mobile devices and other accessories. For example, the wireless connection between a mobile phone and a headset would be categorized as a PAN.

C. LAN

A LAN (Local Area Network) is the network in the immediate area. The network at home or work is best described as a LAN.

D. WAN

A WAN (Wide Area Network) can describe a network connection between cities, states, or countries. Communication over long distances is often generically categorized as a WAN.



More information:

220-1201, Objective 2.7 - Network Types
<https://professormesser.link/1201020702>

B88. Which of the following would be the best way to remove toner and paper dust from the inside of a laser printer?

- A. Use a chemical cleaner that removes toner particles
 - B. Run a cleaning page through the printer
 - C. Wipe the inside with a damp cloth
 - D. Use compressed air to blow out the particles
-

The Answer: C. Wipe the inside with a damp cloth

There can be a significant amount of dust and toner particles inside of a laser printer, and using a normal vacuum cleaner or compressed air would release the particles into the air. Instead, a damp cloth will capture the toner and dust without causing issues with airborne particles in the immediate area.

The incorrect answers:

A. Use a chemical cleaner that removes toner particles

Unused toner is not difficult to remove, so a chemical cleaner is both unnecessary and potentially damaging to the printer. A damp cloth with cold water will pick up the toner without melting it or releasing it into the air.

B. Run a cleaning page through the printer

Cleaning pages are useful for thermal printers, but they won't pick up loose toner particles or dust from inside of a laser printer.

D. Use compressed air to blow out the particles

As mentioned above, compressed air will spread toner and dust around the area and make it very difficult to remove. Instead, a damp cloth with cold water will easily and quickly pick up the loose toner and dust.



More information:

220-1201, Objective 3.8 - Laser Printer Maintenance

<https://professormesser.link/1201030802>

B89. A system administrator is connecting a remote site to the Internet over a single pair of copper wires. Which of the following is the administrator using for this installation?

- A.** PoE switch
 - B.** Tap
 - C.** DSL modem
 - D.** ONT
-

The Answer: **C.** DSL modem

DSL (Digital Subscriber Line) Internet connections use the same single copper pair of wires that are traditionally used by POTS (Plain Old Telephone Service) lines. DSL modems connect to this pair of wires and convert the signal to an Ethernet connection for other devices.

The incorrect answers:

A. PoE switch

PoE (Power over Ethernet) switches commonly use all four pair of twisted pair wires with an RJ45 connector.

B. Tap

A network tap is used to physically attach to an existing network link. Taps are often used to place a monitoring device onto the network without changing the underlying infrastructure.

D. ONT

An ONT (Optical Network Terminal) is the device that connects the fiber from the ISP (Internet Service Provider) to the copper-based connections in a home or business.



More information:

220-1201, Objective 2.5 - Network Devices

<https://professormesser.link/1201020501>

B90. Which of the following would most commonly be associated with a thermal pad?

- A. Connect a heat sink to a processor
 - B. Install a fan in a desktop computer case
 - C. Mount a radiator for liquid cooling
 - D. Manage CPU speed based on the current temperature
-

The Answer: A. Connect a heat sink to a processor

A thermal pad can be used to improve thermal conductivity between a hot component and a heat sink. Thermal pads are somewhat easier to install than traditional thermal paste.

The incorrect answers:

B. Install a fan in a desktop computer case

The installation of a fan in a computer case does not require a conductive surface to cool the system, so a thermal pad would not be required.

C. Mount a radiator for liquid cooling

Liquid cooling will cycle the liquid from the heat sink to a radiator. Cooler air passes through the radiator and cools the warmer liquid in the system. Thermal pads are not used with these radiators.

D. Manage CPU speed based on the current temperature

Many systems will slow the CPU if the internal temperatures become too warm. This allows the system to continue running and prevents any damage from excessive heat. The management of these CPU speeds does not require a thermal pad.



More information:

220-1201, Objective 3.5 - Cooling

<https://professormesser.link/1201030510>

Practice Exam C

Performance-Based Questions

C1. Match the best network technology to the description:

ONT

Patch panel

Access point

Firewall

Router

Switch

Cable modem

PoE injector

Forward traffic over the network based on the destination MAC address

Create a wireless guest network for visitors

Allow or deny the flow of traffic through the network

Physically connect incoming and outgoing network cables

Provide power for Ethernet-connected security cameras

Convert from a fiber-based ISP to an internal copper network

Forward traffic based on the destination IP address

Connect to an ISP over coax

Answer Page: 293

C2. Select the most likely cause for the following symptoms.

Some possible causes will not be used.

Symptoms:

Symptom: During startup, a computer beeps twice and shows a blank screen

Cause:

Symptom: When power button is pressed, a computer is quiet with a blank screen

Cause:

Symptom: The computer makes a grinding noise when saving documents

Cause:

Symptom: The computer randomly powers off multiple times a day

Cause:

Symptom: The PC makes a popping noise and immediately turns off

Cause:

Symptom: A laptop occasionally shows an incorrect date and time

Cause:

Possible Causes:

CPU cooling fan is not running

Hard drive is failing

Motherboard battery depleted

OS not installed on boot drive

Faulty RAM

Damaged Ethernet cable

Power supply failure

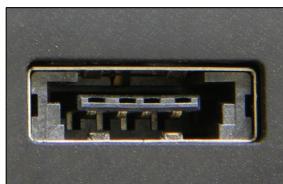
Capacitor has failed

C3. Match the interface with the most applicable device:

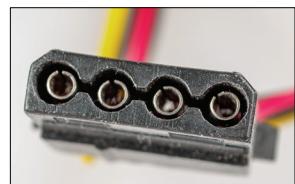
A



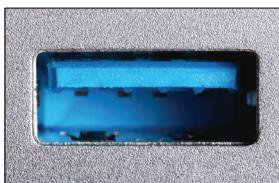
B



C



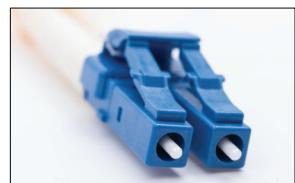
D



E



F



- Keyboard and mouse
- Analog video to LCD projector
- External SATA drive
- Switch connection between buildings
- Digital video to OLED display
- Internal optical drive

Answer Page: **297**

C4. Place these Bluetooth pairing steps in the correct order.

Find a device for pairing

Enable Bluetooth

Test connectivity

Enter the appropriate PIN code

Enable pairing

Answer Page: 299

C5. Fill in the blank with the applicable port number(s):

Map a drive to a remote Windows share

Transfer a file between Linux and Windows (two ports)

View and control a remote Windows computer

Connect to a console over an insecure connection

Send data to a web server over an encrypted channel

Automatically assign an IP address to a device (two ports)

Answer Page: 300

Practice Exam C

Multiple Choice Questions

- C6.** A system administrator has been assigned the task of installing an operating system, application, and data onto a cloud-based server. Which of these best describes this scenario?
- A.** Infrastructure as a Service
 - B.** Platform as a Service
 - C.** Hybrid Cloud
 - D.** Software as a Service
- Quick
Answer: **291**
- C7.** A network engineer is installing a device allowing wireless devices to access the wired Ethernet network. Which of the following would best describe this technology?
- A.** DSL
 - B.** Managed switch
 - C.** VLAN
 - D.** Access point
- The Details: **303**
- Quick
Answer: **291**
- C8.** A systems administrator has added a new video adapter to a desktop computer, installed the latest video driver, and rebooted the system. When the system starts, it shows a Windows Stop Error before it reaches the login prompt. Which of the following would be the best next troubleshooting step?
- A.** Press F8 during startup and choose “Boot from last known working configuration”
 - B.** Upgrade the system BIOS using an update file from the motherboard manufacturer
 - C.** Disconnect all USB storage devices and restart the system
 - D.** Reinstall the operating system
- The Details: **304**
- Quick
Answer: **291**
- The Details: **305**

C9. A system administrator is configuring a lab computer that will run five server VMs at the same time. Which of the following hardware resources will be the most important for this configuration?

- A. CPU
- B. Storage space
- C. Video adapter
- D. NIC

Quick
Answer: **291**

The Details: **306**

C10. A user's smartphone contains both personal and corporate data. When the user attempts to install a new app, the installation is halted and an error message appears. Which of the following would be the most likely reason for this issue?

- A. NFC
- B. Bluetooth
- C. MDM
- D. GPS

Quick
Answer: **291**

The Details: **307**

C11. Which of the following would provide segmentation of broadcast domains on the same physical switch?

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

Quick
Answer: **291**

The Details: **308**

C12. A user is reporting every page printed from a networked laser printer appears as garbled graphics and text characters. Which of the following is the most likely cause of this issue?

- A. Incorrect printer driver
- B. Damaged network cable
- C. Printer is low on memory
- D. Toner is low

Quick
Answer: **291**

The Details: **309**

C13. During a presentation in a conference room, the lamp in an LCD projector is turning off after five minutes of use and back on ten minutes later. Which of the following would be the most likely reason for this issue?

- A. The video cable is faulty
- B. The display lamp has failed
- C. The cooling process is failing
- D. The display resolution is incorrect

Quick
Answer: **291**

The Details: **310**

C14. A system administrator has just completed a memory upgrade on a database server. When starting the system, this message is displayed: "Boot Device Not Found." The BIOS configuration does not show any hard drives in the system. Which of the following would be the next best troubleshooting step?

- A. Replace the hard drive
- B. Upgrade the BIOS
- C. Check the hard drive cables
- D. Modify the BIOS boot sequence

Quick
Answer: **291**

The Details: **311**

C15. If a laptop's inverter is faulty, which of the following would be the most likely result?

- A. The battery will not recharge
- B. The system will not power on
- C. The screen will be difficult to see
- D. The USB interfaces will not be powered

Quick
Answer: **291**

The Details: **312**

C16. What is the most common use for the switch on a computer's power supply?

- A. Sets the input voltage
- B. Controls the speed of the CPU
- C. Sets the cooling fan speed
- D. Boots from different operating system partitions

Quick
Answer: **291**

The Details: **313**

C17. Which of these devices would be used to configure an 802.1Q trunk?

- A. Router
- B. Repeater
- C. Managed switch
- D. Cable modem

Quick
Answer: **291**

The Details: **314**

C18. A user is trying to connect a Bluetooth headset to his smartphone, but the headset does not appear in a list of available Bluetooth devices. Which of the following would be the best next step?

- A. Upgrade the smartphone OS
- B. Enable Bluetooth pairing on the headset
- C. Connect to the headset with a USB cable
- D. Replace the smartphone battery

Quick
Answer: **291**

The Details: **315**

C19. A network administrator needs to connect an Ethernet link between two buildings located across the parking lot from each other. The total distance between the buildings is approximately 400 meters. Which of the following technologies would be the best choice for this installation?

- A. Coax
- B. Category 6A
- C. Fiber
- D. UTP

Quick
Answer: **291**

The Details: **316**

C20. A systems administrator needs to configure a smartphone to retrieve email messages from the corporate mail server. Which of the following protocols could be configured for this purpose? (Pick TWO)

- A.** IMAP
- B.** SSH
- C.** SMTP
- D.** LDAP
- E.** POP3
- F.** FTP
- G.** SMB

Quick
Answer: **291**

The Details: **317**

C21. A company manages the maintenance of farm equipment and grain silos, and this equipment is often miles away from the nearest Ethernet connection. Which of the following would be the best way to provide connectivity to the maintenance team?

- A.** Bluetooth
- B.** 5G
- C.** 802.11
- D.** NFC

Quick
Answer: **291**

The Details: **318**

C22. Which of these cloud computing architectures would best describe several organizations sharing the same resources?

- A.** Community
- B.** IaaS
- C.** Public
- D.** Hybrid

Quick
Answer: **291**

The Details: **319**

C23. What port should be configured in a firewall to block secure terminal communication?

- A.** 23
- B.** 443
- C.** 22
- D.** 110

Quick
Answer: **291**

The Details: **320**

C24. A user has opened a ticket complaining of a constantly flashing light on the front of their desktop computer. Which of the following is the most likely reason for this issue?

- A.** Power supply status
- B.** Network communication
- C.** Storage drive access
- D.** RAM module transfers

Quick
Answer: **291**

The Details: **321**

C25. A desktop administrator is troubleshooting an LCD display that shows a faint image at the bottom right of the screen. The faint image is displayed even when spreadsheets or browser screens are shown. Which of the following would be the most likely reason for this issue?

- A.** Dead pixels
- B.** Incorrect resolution
- C.** Bad video cable
- D.** Burn-in

Quick
Answer: **291**

The Details: **322**

C26. A systems administrator is troubleshooting a Windows laptop that boots normally but becomes sluggish after login. Which of the following would provide the best source of troubleshooting information?

- A.** Beep codes during startup
- B.** Power supply voltages
- C.** Number of installed DIMMs
- D.** Task Manager statistics

Quick
Answer: **291**

The Details: **323**

C27. A network administrator has installed a fifty meter network connection from one side of the building to the other, and now he would like to make sure that the punch-downs and crimps are connected to the correct pins on each side. Which of these tools would be the best way to confirm the wiring map?

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

Quick
Answer: **291**

The Details: **324**

C28. An administrator is building a new server, and they would like the server to continue operating if the power supply fails. Which of the following would provide this functionality?

- A.** Modular power supply
- B.** High wattage rating
- C.** Redundant power supplies
- D.** LCD inverter

Quick
Answer: **291**

The Details: **325**

C29. A user in the shipping department would like to connect multiple displays to a desktop computer. Which of the following would support this requirement? (Pick TWO)

- A.** RJ45
- B.** Lightning
- C.** Fiber
- D.** HDMI
- E.** DB-9
- F.** DVI-D

Quick
Answer: **291**

The Details: **326**

C30. A user is trying to charge their smartphone using the built-in USB interface, but the phone does not show the charging icon and the battery does not charge. Which of the following would be the most likely reason for this issue?

- A.** No wireless connectivity
- B.** Damaged charging port
- C.** Broken screen
- D.** Digitizer not calibrated

Quick
Answer: **291**

The Details: **327**

C31. A system administrator is designing a network with a priority towards uptime and availability of the public-facing company website. Which of the following should be included with this design?

- A.** AAA server
- B.** UTM
- C.** Load balancer
- D.** Patch panel

Quick
Answer: **291**

The Details: **328**

C32. A user is replacing an empty paper roll in a printer with one that was purchased to match the model of the printer. Which of the following would best describe this printer type?

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

Quick
Answer: **291**

The Details: **329**

C33. A network engineer is installing a cable modem at a remote site. Which of these connectors would commonly be found on a cable modem?

- A.** DB-9
- B.** eSATA
- C.** M.2
- D.** F-connector

Quick
Answer: **291**

The Details: **330**

C34. A technician has just upgraded the memory on a desktop computer. After the computer runs for a few minutes, the system locks up completely and does not respond to keyboard or mouse input. After rebooting, no error messages are found in Event Viewer. Which of the following would be the best next troubleshooting step?

- A.** Reinstall the operating system
- B.** Upgrade the BIOS
- C.** Update device drivers
- D.** Run hardware diagnostics

Quick
Answer: **291**

The Details: **331**

C35. Which of these network types would most likely be categorized as a WAN?

- A.** A point-to-point connection to an office in another country
- B.** A fiber connection to a building across a campus
- C.** A connection to a remote office on the other side of town
- D.** A link between a mobile device and an automobile

Quick
Answer: **291**

The Details: **332**

C36. A technician is connecting two buildings using a fiber optic link. Which of these connectors would be commonly associated with this media type?

- A.** RJ45
- B.** F
- C.** Molex
- D.** SC

Quick
Answer: **291**

The Details: **333**

C37. A system administrator is configuring the IP address settings on a remote server. Which of these settings would enable the server to communicate with other devices using a fully qualified domain name?

- A.** DHCP
- B.** IP address
- C.** DNS
- D.** Subnet mask

Quick
Answer: **291**

The Details: **334**

C38. Which of the following devices makes forwarding decisions based on destination IP address?

- A. ONT
- B. Router
- C. NIC
- D. Managed switch

Quick
Answer: 291

The Details: 335

C39. A system administrator needs to test a new application simultaneously across macOS, Windows, and Linux. Which of the following would be the best choice for this requirement?

- A. Multiple partitions
- B. SaaS
- C. Cross-platform virtualization
- D. High availability

Quick
Answer: 291

The Details: 336

C40. A user in the accounting department had a new laptop delivered and installed, but they are reporting that the network throughput seems much slower than the previous computer. Which of the following would be the most likely cause of these slow transfer speeds?

- A. Incorrect SSID
- B. Device is assigned an APIPA address
- C. Incorrect gateway configuration
- D. Duplex mismatch
- E. Device is assigned an RFC 1918 address

Quick
Answer: 291

The Details: 337

C41. A workstation is configured with a video card that outputs DVI-D, but it needs to connect to an LCD projector with an HDMI connection. Which of the following would be the best way to connect this workstation to the projector?

- A. DVI-D to HDMI adapter
- B. Digital to analog converter
- C. VGA to HDMI adapter
- D. USB to HDMI converter

Quick
Answer: 291

The Details: 338

C42. An Android user needs to transfer some presentations from their desktop computer to their smartphone. Which of the following would be the best choice?

- A. Lightning
- B. RJ45
- C. USB-C
- D. Thunderbolt

Quick
Answer: 291

The Details: 339

C43. What type of network connection is commonly used by DSL?

- A. Coax
- B. Fiber optic
- C. 802.11
- D. Twisted pair copper

Quick
Answer: 291

The Details: 340

C44. An administrator is building a computer system to stream live corporate events. Which of the following should be installed to provide input for the live stream?

- A. Capture card
- B. Thermal pads
- C. HSM
- D. M.2

Quick
Answer: 291

The Details: 341

C45. A user's workstation has been configured with the IP address of 172.20.122.45. Which of the following would best describe this IP address type?

- A. Loopback
- B. Private
- C. Static
- D. APIPA

Quick
Answer: 291

The Details: 342

C46. What type of proprietary Apple connector can be plugged in face up or face down?

- A. Lightning
- B. Thunderbolt
- C. SATA
- D. USB-C

Quick
Answer: **291**

The Details: **343**

C47. Which of the following best describes elasticity in cloud computing?

- A. A cloud-based application framework is used to build more complex apps
- B. The cloud operates in an internal virtualized data center
- C. All cloud storage is managed from a central pool
- D. Cloud resources can scale up as needed

Quick
Answer: **291**

The Details: **344**

C48. A company would like to configure a Sender Policy Framework (SPF) record in their DNS. Which of the following should be configured in the DNS server?

- A. AAAA
- B. TXT
- C. MX
- D. DKIM

Quick
Answer: **291**

The Details: **345**

C49. Which of the following would be most commonly associated with the management interface on a switch?

- A. ST
- B. 802.11
- C. DB-9
- D. Thunderbolt

Quick
Answer: **291**

The Details: **346**

C50. A user has reported they can't browse to Google's search page at <https://www.google.com>. The workstation IP address is 192.168.1.5, the subnet mask is 255.255.255.0, the default gateway is 192.168.1.1, and the domain name servers are 10.2.2.1 and 10.2.2.2. A technician can successfully ping the local IP address, the default gateway, and Google's DNS server at 8.8.8.8. Which of the following is the most likely cause of this issue?

- A.** The Ethernet adapter's duplex setting is incorrect
- B.** The default gateway is faulty
- C.** The Internet connection is down
- D.** The DNS servers are faulty
- E.** The client's default gateway configuration is incorrect

Quick
Answer: **291**

The Details: **347**

C51. A user in the facilities department is having an issue printing their blueprints to a network laser printer. When they pick up their output, the page contains specks and small dots randomly printed on the page with the final output. Which of these is the most likely cause of this issue?

- A.** Network is faulty
- B.** Optical drum is not clean
- C.** Page description language is incorrect
- D.** Printer is low on toner

Quick
Answer: **291**

The Details: **348**

C52. A user would like to ensure all apps on their smartphone use 802.11 networking instead of the cellular network. Which of the following would provide this functionality?

- A.** Enable data caps
- B.** Use biometric authentication
- C.** Synchronize to the cloud
- D.** VPN client

Quick
Answer: **291**

The Details: **349**

C53. A network administrator is installing an Ethernet cable containing gel and a ground wire. Which of the following would most likely describe this cable?

- A.** Plenum
- B.** Direct burial
- C.** Optical
- D.** Ethernet patch

Quick
Answer: **291**

The Details: **350**

C54. A Windows computer is configured to obtain an IP address automatically. Which of the following would occur if the automatic assignment process was not working?

- A.** The IP address would be set to 0.0.0.0
- B.** A link-local address would be assigned
- C.** The Ethernet adapter would be disabled
- D.** The last known good IP address would be used

Quick
Answer: **291**

The Details: **351**

C55. A web server administrator has received a notification that disk 1 in a RAID 5 array has failed. Which of the following would be the best next step to resolve this drive failure?

- A.** Replace disk 1 and restore from backup
- B.** Replace all drives and restore from backup
- C.** Replace all drives and rebuild the array
- D.** Replace disk 1 and rebuild the array

Quick
Answer: **291**

The Details: **352**

C56. A high speed network provides access to a large array of hard drives. Which of the following would best describe this type of network?

- A.** PAN
- B.** LAN
- C.** SAN
- D.** MAN

Quick
Answer: **291**

The Details: **353**

C57. A user in the accounting department is reporting that all of the printed pages from a networked laser printer are completely blank. Nothing appears to be written on any of the printed pages. Which of the following would be the most likely cause of this issue?

- A.** Incorrect page description language
- B.** Print drivers are incorrect
- C.** Printer out of memory
- D.** Toner cartridge is faulty

Quick
Answer: 291

The Details: 354

C58. A systems administrator has just installed a new server in a data center. When pressing the power button, there's no response from the server, no lights appear on the front display, and no fans are spinning. Which of the following would be the most likely reason for this issue?

- A.** An operating system is not installed on the server
- B.** The power supply switch is set to the wrong input voltage
- C.** The BIOS needs to be upgraded
- D.** The keyboard and mouse are not connected

Quick
Answer: 291

The Details: 355

C59. Which of the following services would automatically provide an IP address to any device connected to the network?

- A.** DNS
- B.** Proxy
- C.** IPS
- D.** DHCP

Quick
Answer: 291

The Details: 356

C60. A network administrator is installing a network link containing an LC connector. Which of the following would be the most likely connection for this link?

- A.** Cable modem
- B.** Access point
- C.** Internet firewall
- D.** Link between buildings

Quick
Answer: 291

The Details: 357

C61. A computer lab is purchasing supplies for their dot-matrix printers. Which of the following should be included on this order?

- A.** Toner cartridge
- B.** Heating element
- C.** Ink ribbon
- D.** Ink cartridge

Quick
Answer: **291**

The Details: **358**

C62. A system administrator is installing a lightweight and standalone executable package containing an application and all of its dependencies. This package is isolated from other installed packages and the underlying host operating system. Which of the following would best describe this package?

- A.** Container
- B.** Archive
- C.** Cabinet
- D.** VDI

Quick
Answer: **291**

The Details: **359**

C63. A server administrator is building a web server with three hard disk drives. The storage for the server requires the fastest possible access and redundancy is not a primary requirement. Which of the following would be the best choice for this server?

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

Quick
Answer: **291**

The Details: **360**

C64. A company is consolidating Event Viewer information from all Windows Servers to a centralized repository. Which of the following services would provide this functionality?

- A.** DNS
- B.** Syslog
- C.** NTP
- D.** UTM

Quick
Answer: **291**

The Details: **361**

C65. A developer has requested a server for testing a new application. To complete this request, the system administrator logs into his cloud console and allocates a new server configuration. Which of the following best describes the process of creating this server?

- A.** Metered utilization
- B.** File synchronization
- C.** Availability
- D.** Shared resources

Quick
Answer: **291**

The Details: **362**

C66. Which of the following would be the most efficient method of migrating from an HDD to an SSD?

- A.** Use cloud-based backup and restore
- B.** Perform a drive-to-drive image
- C.** Install a new OS on the SSD
- D.** Use an SSD for the OS and HDD for the applications

Quick
Answer: **291**

The Details: **363**

C67. A technician is installing a CPU and heat sink into a new system. Which of the following should be used with these two components?

- A.** Redundant power supply
- B.** Header
- C.** Loopback plug
- D.** Thermal pad

Quick
Answer: **291**

The Details: **364**

C68. The fans on a desktop computer are not able to move enough air to keep the system cool. A technician finds a significant amount of airflow is restricted by the internal wiring inside the computer case. Which of the following would help to resolve this issue?

- A.** Modular power supply
- B.** Wireless networking
- C.** Bluetooth keyboard and mouse
- D.** Dual-channel memory

Quick
Answer: **291**

The Details: **365**

C69. A user would like to connect a set of Bluetooth speakers to their smartphone. Which of the following would be required for this connection?

- A.** Pre-shared key
- B.** Biometrics
- C.** PIN
- D.** Key generation app

Quick
Answer: **291**

The Details: **366**

C70. A user's virtualization software requires hardware support to be enabled. Which of the following would enable this functionality?

- A.** Hypervisor configuration
- B.** BIOS settings
- C.** Motherboard header
- D.** PCIe adapter

Quick
Answer: **291**

The Details: **367**

C71. A network administrator is viewing the interface statistics on a WAN router and has noticed that error rates are increasing. The administrator has replaced the WAN cables, but the errors continue. Which of the following tools should be used to best troubleshoot this issue?

- A.** Loopback plug
- B.** Toner probe
- C.** Crimper
- D.** Cable tester

Quick
Answer: **291**

The Details: **368**

C72. A user has reported stuttering and dropouts occurring on most of their incoming VoIP calls. Other web-based applications appear to be working normally. Which of the following would provide the best information regarding this issue?

- A.** Jitter measurements
- B.** Hard drive IOPS
- C.** SMART monitoring
- D.** Task Manager

Quick
Answer: **291**

The Details: **369**

C73. An administrator is trying to print some customer letters on company letterhead, but there are no messages on the printer and no pages are printing. Upon examining the queue, five print jobs are pending and waiting to print. Which of the following is the most likely cause of this issue?

- A.** Tray selection in the printer driver is incorrect
- B.** The fuser is faulty
- C.** Print spooler has crashed
- D.** Printer does not support printing on letterhead

Quick
Answer: 291

The Details: 370

C74. A hardware technician has been asked to purchase a system to be used as a database server. One of the specifications for the server requires the system to detect and correct memory errors during operation. Which of the following would be the best option for this project?

- A.** Parity memory
- B.** Single channel
- C.** ECC
- D.** SO-DIMM

Quick
Answer: 291

The Details: 371

C75. A system administrator is replacing a cracked LCD display on a Windows laptop. Which of the following would be the most important component to test after this replacement?

- A.** Trackpad
- B.** Wireless network
- C.** USB devices
- D.** Primary storage drive

Quick
Answer: 291

The Details: 372

C76. Which of the following would be most associated with M.2?

- A.** HDD
- B.** eSATA
- C.** RAID
- D.** SSD

Quick
Answer: 291

The Details: 373

C77. A user in the accounting department is reporting that her smartwatch is not synchronizing with her mobile phone. The phone is powered on and unlocked, but the phone does not show the smartwatch in a list of available devices. Which of the following would most likely solve this issue?

- A.** Enable NFC on the smartwatch
- B.** Disable Wi-Fi on the phone
- C.** Enable Bluetooth on the smartwatch
- D.** Restart the phone and smartwatch

Quick
Answer: 291

The Details: 374

C78. A computer used for testing high-resolution gaming displays has a high-end video adapter and DisplayPort video connection. The computer works properly for word processing and spreadsheets, but it powers down after only a few minutes of graphics testing. Which of the following would be the most likely reason for this issue?

- A.** The storage drive is not fast enough for the testing application
- B.** The CPU fan is faulty
- C.** The video display is not properly connected
- D.** One of the memory modules is faulty

Quick
Answer: 291

The Details: 375

C79. A network administrator has created a configuration that provides a server with the same IP address each time the server is started. Which of the following would best describe this configuration?

- A.** Link-local address
- B.** IP reservation
- C.** Default gateway
- D.** APIPA

Quick
Answer: 291

The Details: 376

C80. A cloud-based application is distributed across multiple data centers and will continue to operate if any of the data centers have an outage. Which of the following characteristics would best describe this configuration?

- A.** Availability
- B.** Shared resources
- C.** File synchronization
- D.** Elasticity
- E.** Metered utilization

Quick
Answer: **291**

The Details: **377**

C81. A network technician is installing a new copper gigabit Ethernet connection, but when they plug in the network cable the status light indicators are dark. Which of the following would be the most likely status of the network connection?

- A.** The DHCP server has not assigned an IP address
- B.** There is no signal on the Ethernet cable
- C.** The Ethernet link is running at 100 megabits per second instead of 1 gigabit per second
- D.** The primary DNS server is not responding

Quick
Answer: **291**

The Details: **378**

C82. A finance manager is printing a contract designed to be printed on both sides of the page, but the printer is only providing output on one side of the paper. Which of the following options would resolve this issue?

- A.** Badging
- B.** Tray settings
- C.** Orientation
- D.** Duplex

Quick
Answer: **291**

The Details: **379**

C83. A technician is troubleshooting a mobile phone that turns off after about an hour of normal use. Before powering off, the phone displays the message, “High temperature detected.” The phone is used inside the building at room temperature, and is not used in direct sunlight. Which of the following would be the most likely reason for this issue?

- A.** An app is using a large amount of CPU
- B.** The Wi-Fi network is overloaded
- C.** The battery has low voltage
- D.** The mobile phone has liquid damage

Quick
Answer: **291**

The Details: **380**

C84. The help desk has received a ticket about a desktop computer reporting slow performance. It takes sixty seconds to load a file that previously took five seconds, and an ongoing clicking noise can be heard when accessing the data. The CPU and memory utilization statistics show minimal resource use. Which of the following would be the best next step?

- A.** Upgrade the RAM
- B.** Replace the hard drive
- C.** Upgrade the BIOS
- D.** Boot to Safe Mode
- E.** Upgrade the power supply

Quick
Answer: **291**

The Details: **381**

C85. A user in the marketing department was using their computer to send some email messages. The computer made an unexpected loud pop and immediately powered down. The computer would not respond to additional attempts to power it back on. Which of the following would be the most likely cause of this issue?

- A.** Incorrect video refresh rate
- B.** Faulty capacitor
- C.** Incomplete software update
- D.** Bad memory module

Quick
Answer: **291**

The Details: **382**

C86. A manager in the shipping department needs to connect their laptop to wireless portable speakers while in the office. Which of these should be configured on their laptop?

- A.** Tethering
- B.** Bluetooth
- C.** NFC
- D.** RFID

Quick
Answer: **291**

The Details: **383**

C87. A technician has two hard disk drives that need to be configured redundantly, and all information should be duplicated across physical drives. Which of the following should be configured?

- A.** RAID 5
- B.** RAID 1
- C.** RAID 6
- D.** RAID 0

Quick
Answer: **291**

The Details: **384**

C88. A system administrator has connected a desktop computer to a new LCD. After connecting the monitor, all of the desktop icons and windows appear oversized and the display appears to be fuzzy and out of focus. Which of the following would be the best way to correct this issue?

- A.** Modify the display resolution
- B.** Use a different LCD display
- C.** Replace the monitor cable
- D.** Restart the desktop computer

Quick
Answer: **291**

The Details: **385**

C89. The camera on a user's smartphone works properly when at home, but the user is not able to take pictures while at their desk at work. Which of the following would be the most likely reason for this issue?

- A. NFC
- B. Biometrics
- C. Bluetooth pairing
- D. MDM

Quick
Answer: **291**

The Details: **386**

C90. A system administrator is installing a new LCD projector in the company conference room. Which of the following would most likely be used with this projector?

- A. Lightning
- B. UTP
- C. Coaxial
- D. HDMI

Quick
Answer: **291**

The Details: **387**

Practice Exam C

Multiple Choice Quick Answers

- | | | |
|--------------|--------|--------|
| C6. A | C36. D | C66. B |
| C7. D | C37. C | C67. D |
| C8. A | C38. B | C68. A |
| C9. B | C39. C | C69. C |
| C10. C | C40. D | C70. B |
| C11. A | C41. A | C71. A |
| C12. A | C42. C | C72. A |
| C13. C | C43. D | C73. C |
| C14. C | C44. A | C74. C |
| C15. C | C45. B | C75. B |
| C16. A | C46. A | C76. D |
| C17. C | C47. D | C77. C |
| C18. B | C48. B | C78. B |
| C19. C | C49. C | C79. B |
| C20. A and E | C50. D | C80. A |
| C21. B | C51. B | C81. B |
| C22. A | C52. A | C82. D |
| C23. C | C53. B | C83. A |
| C24. C | C54. B | C84. B |
| C25. D | C55. D | C85. B |
| C26. D | C56. C | C86. B |
| C27. B | C57. D | C87. B |
| C28. C | C58. B | C88. A |
| C29. D and F | C59. D | C89. D |
| C30. B | C60. D | C90. D |
| C31. C | C61. C | |
| C32. A | C62. A | |
| C33. D | C63. C | |
| C34. D | C64. B | |
| C35. A | C65. D | |

Practice Exam C

Performance-based Answers

C1. Match the best network technology to the description.

Switch

Forward traffic over the network based on the destination MAC address

A switch makes all forwarding decisions based on the destination MAC address in the Ethernet frame.

Access point

Create a wireless guest network for visitors

An access point provides a bridge between a wired Ethernet network and an 802.11 wireless network.

Firewall

Allow or deny the flow of traffic through the network

Although a switch or router can be configured with certain traffic control features, the best selection from the available list is a network firewall.

Patch panel

Physically connect incoming and outgoing network cables

A patch panel is commonly used to terminate connections between network runs.

PoE injector

Provide power for
Ethernet-connected security cameras

PoE (Power over Ethernet) provides a way to transport power over existing Ethernet cables. A PoE injector can be used to add power if a switch isn't already providing the required voltage.

ONT

Convert from a fiber-based ISP to an
internal copper network

An ONT (Optical Network Terminal) is a device installed at the demarcation point between a network service provider's fiber optic network and the internal copper network connections.

Router

Forward traffic based on the
destination IP address

Routers make forwarding decisions based on the destination IP address in the IP header of a packet.

Cable modem

Connect to an ISP over coax

Cable modems are often all-in-one network devices that terminate a cable modem Internet link, provide routing to a private internal network, and connect multiple internal devices with a built-in switch.



More information:

220-1201, Objective 2.5 - Network Devices

<https://professormesser.link/1201020501>

C2. Select the most likely cause for the following symptoms.

Some possible causes will not be used.

Symptom: During startup, a computer beeps twice and shows a blank screen

Cause: Faulty RAM

During startup, the BIOS (Basic Input Output System) performs a quick hardware diagnostics to determine if important hardware components are recognized and functioning. This hardware diagnostic is called the POST (Power On Self Test).

Symptom: When power button is pressed, a computer is quiet with a blank screen

Cause: Power supply failure

The power supply provides all of necessary voltages for the motherboard and all other peripherals. If the system is not receiving any power, this may be associated with a complete failure of the power supply.

Symptom: The computer makes a grinding noise when saving documents

Cause: Hard drive is failing

Generally speaking, there should never be any grinding noises inside of your computer. Most modern components are solid-state, so there are few moving parts to fail. Hard drives are obviously not solid-state, and there are many moving parts on a hard drive that could eventually cause problems. If the odd noises only occur when accessing the storage drive, these sounds could indicate an issue with the hard drive.

Symptom: The computer randomly powers off multiple times a day

Cause: CPU cooling fan is not running

If a computer is working normally and then abruptly powers down, the most likely issue would be thermal problems. Most computers are designed to automatically shut down if the system gets too hot, and a failed cooling fan could certainly be related to this issue.

Symptom: The PC makes a popping noise and immediately turns off

Cause: Capacitor has failed

There are many different types of capacitors on a computer's motherboard and inside of individual components. When a capacitor fails, it can make whistling and popping noises. If a computer makes a loud popping noise and then immediately turns off, the issue is most likely associated with a capacitor.

Symptom: A laptop occasionally shows an incorrect date and time

Motherboard battery depleted

Most motherboards will include a battery to provide power to the on-board clock. This clock maintains the date and time when the computer is disconnected from a power source. If the date and time are incorrect when powering on a computer, the issue is most likely with the system battery on the motherboard.



More information:

220-1201, Section 5.1 - Troubleshooting Hardware

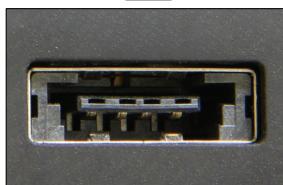
<https://professormesser.link/1201050101>

C3. Match the interface with the most applicable device:

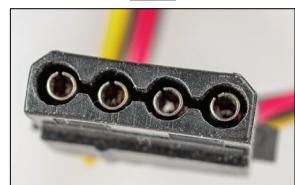
A



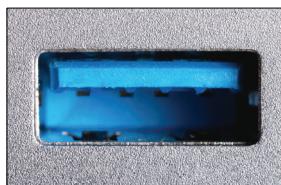
B



C



D



E



F



D Keyboard and mouse

USB Type A connectors are often used to connect peripherals such as keyboards, mice, printers, and many other wired devices.

E Analog video to LCD projector

VGA (Video Graphics Array) uses a 15 pin connector to provide analog video. Although this standard is considered a legacy format, there are still many devices supporting VGA connections.

B External SATA drive

The SATA (Serial AT Attachment) standard focuses on internal storage connections, but the eSATA (External SATA) connector is used for connecting devices outside of the computer case.

F Switch connection between buildings

Connections between network devices exceeding 100 meters often require fiber optics to communicate across the extended distance. The LC (Lucent Connector) is a common fiber optic connection type for switches, routers, servers, and many other Ethernet devices.

A Digital video to OLED display

DisplayPort connections are commonly used to send digital signals to video output devices. Unlike VGA interfaces, all of the data on a DisplayPort interface is sent in a digital format.

C Internal optical drive

A Molex connector is commonly used to provide power to internal computer devices such as hard drives, optical drives, fans, and more. The Molex interface is usually provided directly from the computer's power supply.



More information:

220-1201, Section 3.2 - Peripheral Cables
<https://professormesser.link/1201030204>



More information:

220-1201, Section 3.2 - Video Cables
<https://professormesser.link/1201030205>



More information:

220-1201, Section 3.2 - Copper Connectors
<https://professormesser.link/1201030208>



More information:

220-1201, Section 3.2 - Fiber Connectors
<https://professormesser.link/1201030209>

C4. Place these Bluetooth pairing steps in the correct order.

Enable Bluetooth

The Bluetooth pairing process starts with enabling or confirming the use of Bluetooth on both devices.

Enable pairing

For a device to appear available, it must be placed in pairing mode. This is sometimes available through a series of menus or specific keystrokes and buttons.

Find a device for pairing

The other Bluetooth device should now see the pairing device in an available list. This device can be selected for authentication in the next step.

Enter the appropriate PIN code

The pairing process includes a security measure to confirm the device you're adding is correct. This prevents other devices from gaining unauthorized access to your devices.

Test connectivity

Once a Bluetooth pairing is complete, it's time to test the headset, speaker, mouse, or any other paired Bluetooth device.



More information:

220-1201, Section 1.3 - Mobile Device Networks
<https://professormesser.link/1201010301>

C5. Fill in the blank with the applicable port number(s):

445 -Map a drive to a remote Windows share

The Windows operating system uses SMB (Server Message Block) on TCP port 445 to map share drives, transfer print jobs, and perform numerous file system operations across the network.

20, 21 - Transfer a file between Linux and Windows (two ports)

FTP (File Transfer Protocol) uses TCP ports 20 and 21 to transfer files to any device acting as an FTP server. This commonly allows different operating systems to transfer files directly to each other over the network.

3389 - View and control a remote Windows computer

RDP (Remote Desktop Protocol) provides remote control services for Windows computers using port 3389 over TCP. For example, a system administrator can use RDP to remotely connect and control the mouse and keyboard of a remote server, workstation, or other Windows-based computer.

23 - Connect to a console over an insecure connection

The Telnet protocol was one of the first remote console protocols, and it allowed terminal access to devices located elsewhere on the network. Unfortunately, Telnet does not provide any privacy or encryption features, and all of the information sent or received using Telnet can be easily viewed with any protocol analyzer. Telnet uses TCP port 23 to communicate.

443 - Send data to a web server over an encrypted channel

A web server can send or receive encrypted data using HTTPS (Hypertext Transfer Protocol Secure) over TCP port 443. Ideally, all of our web server traffic should be communicating over HTTPS.

67, 68 - Automatically assign an IP address to a device (two ports)

During startup, a computer will often lease an IP address from a DHCP (Dynamic Host Configuration Protocol) server. This conversation takes place over UDP port 67 and UDP port 68.



More information:

220-1201, Objective 2.1 - Common Ports

<https://professormesser.link/1201020102>

Practice Exam C

Multiple Choice Detailed Answers

- C6. A system administrator has been assigned the task of installing an operating system, application, and data onto a cloud-based server. Which of these best describes this scenario?
- A. Infrastructure as a Service
 - B. Platform as a Service
 - C. Hybrid Cloud
 - D. Software as a Service
-

The Answer: A. Infrastructure as a Service

IaaS (Infrastructure as a Service) provides the CPU, memory, storage, and other infrastructure components necessary for the installation of an operating system and application.

The incorrect answers:

B. Platform as a Service

PaaS (Platform as a Service) is a cloud deployment model that provides a modular development platform. Users can create their own applications based on the hosted modules available from a PaaS deployment.

C. Hybrid Cloud

The combination of both public and private cloud deployments results in a hybrid model. This model allows organizations to provide both public services to their customers and private services to use internally.

D. Software as a Service

Software as a Service is a cloud deployment model that provides on-demand software. The user is not responsible for hosting, development, or ongoing management of a SaaS-based deployment.



More information:

220-1201, Objective 4.2 - Cloud Models

<https://professormesser.link/1201040201>

C7. A network engineer is installing a device allowing wireless devices to access the wired Ethernet network. Which of the following would best describe this technology?

- A.** DSL
 - B.** Managed switch
 - C.** VLAN
 - D.** Access point
-

The Answer: **D.** Access point

An access point bridges the 802.11 wireless network with a wired Ethernet network. Since the access point is acting as a bridge, it's making forwarding decisions based on the destination MAC (Media Access Control) address of the network frame.

The incorrect answers:

A. DSL

DSL (Digital Subscriber Line) is a technology commonly used to provide Internet connectivity to a home or office. DSL itself does not provide any connectivity between wireless and wired networks.

B. Managed switch

A managed switch provides connectivity for wired Ethernet devices, and some of the more advanced features of the managed switch allow for additional network configurations and monitoring options. However, a managed switch does not provide access to a wireless network.

C. VLAN

One of the features of a managed switch is the ability to assign interfaces to VLANs (Virtual Local Area Networks). VLANs provide a way to logically separate devices on the same physical switch, but they don't provide any access to wireless networks.



More information:

220-1201, Objective 2.5 - Network Devices

<https://professormesser.link/1201020501>

C8. A systems administrator has added a new video adapter to a desktop computer, installed the latest video driver, and rebooted the system. When the system starts, it shows a Windows Stop Error before it reaches the login prompt. Which of the following would be the best next troubleshooting step?

- A.** Press F8 during startup and choose "Boot from last known working configuration"
 - B.** Upgrade the system BIOS using an update file from the motherboard manufacturer
 - C.** Disconnect all USB storage devices and restart the system
 - D.** Reinstall the operating system
-

The Answer: **A.** Press F8 during startup and choose
"Boot from last known working configuration"

If a recent configuration causes a boot issue, Windows can restart the operating system using the last known working configuration. Each time Windows successfully boots, it makes a backup of that configuration. If the startup option to "boot from last known working configuration" is selected, that working backup is used instead of the current Windows configuration. This can help resolve Windows Stop Error issues like those detailed in this question.

The incorrect answers:

B. Upgrade the system BIOS using an update file from the motherboard manufacturer

There's nothing in this question that would indicate that the BIOS is causing any issues with the computer.

C. Disconnect all USB storage devices and restart the system

If Windows tries to boot from a USB storage device and a problem occurs, an error message will be provided on the screen. The computer does not continue to reboot when attempting to boot from a USB storage device.

D. Reinstall the operating system

Since the last change to the computer was the video driver upgrade, it would be unnecessary to reinstall the entire operating system.



More information:

220-1201, Objective 5.1 - Troubleshooting Hardware

<https://professormesser.link/1201050101>

C9. A system administrator is configuring a lab computer that will run five server VMs at the same time. Which of the following hardware resources will be the most important for this configuration?

- A. CPU
 - B. Storage space
 - C. Video adapter
 - D. NIC
-

The Answer: B. Storage space

Adding five virtual machines to a single device would require as much storage space as five separate operating systems. Of the available options, the system storage will be used the most.

The incorrect answers:

A. CPU

The CPU utilizations required by a server can vary, but five servers at low utilizations would not be as much of a resource requirement as the storage space for the VMs (Virtual Machines).

C. Video adapter

Servers don't often require extensive video resources, and some servers don't even use a graphical interface. Given what we know in this question, the video adapter resources are not going to be a large resource requirement.

D. NIC

The NIC (Network Interface Card) provides the network connectivity for the virtual machines. Multiple VMs can use the same physical NIC, so most environments won't need any additional physical network interfaces.



More information:

220-1201, Objective 4.1 - Virtualization Services

<https://professormesser.link/1201040102>

C10. A user's smartphone contains both personal and corporate data. When the user attempts to install a new app, the installation is halted and an error message appears. Which of the following would be the most likely reason for this issue?

- A.** NFC
 - B.** Bluetooth
 - C.** MDM
 - D.** GPS
-

The Answer: **C. MDM**

MDM (Mobile Device Management) provides centralized management for mobile devices. An MDM can be used to set policies on app use, data storage, camera use, and almost any other feature on the smartphone.

The incorrect answers:

A. NFC

NFC (Near Field Communication) is designed to send small amounts of data over a short distance. NFC is commonly used in smart phones and smart watches as a method of payment at a credit card terminal.

B. Bluetooth

Bluetooth is a useful high speed network to use over a relatively short distance, such as a single room. Bluetooth is not commonly used as a method of device management.

D. GPS

A smartphone using GPS (Global Positioning System) can provide location information, but the GPS results aren't associated with app installation unless the manager of the MDM creates a specific policy linking the two.



More information:

220-1201, Objective 1.3 - Mobile Device Management

<https://professormesser.link/1201010302>

C11. Which of the following would provide segmentation of broadcast domains on the same physical switch?

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

The Answer: A. VLAN

A VLAN (Virtual Local Area Network) is used to segment interfaces on a single switch or across multiple switches. This allows a network administrator to separate networks on a single switch instead of installing multiple physical switches.

The incorrect answers:

B. DNS

DNS (Domain Name System) is commonly used to translate between fully qualified domain names (FQDNs) and IP addresses. DNS does not provide a method of network segmentation.

C. VPN

VPN (Virtual Private Networks) are used to securely communicate over an encrypted tunnel across the network. VPNs are commonly used to provide remote access to an organization's network from an insecure network or location.

D. DHCP

DHCP (Dynamic Host Configuration Protocol) is used to automatically assign IP address configurations on network devices. DHCP is not used for network segmentation.



More information:

220-1201, Objective 2.4 - VLANs and VPNs

<https://professormesser.link/1201020403>

C12. A user is reporting every page printed from a networked laser printer appears as garbled graphics and text characters. Which of the following is the most likely cause of this issue?

- A.** Incorrect printer driver
 - B.** Damaged network cable
 - C.** Printer is low on memory
 - D.** Toner is low
-

The Answer: **A.** Incorrect printer driver

The printer driver formats the print job into a language that the printer can understand. If the incorrect driver is used, the language sent to the printer may not be interpreted correctly and the output may appear very different than the original document. In extreme cases, the output may appear as unreadable pages of garbled text and graphics.

The incorrect answers:

B. Damaged network cable

A bad network cable would limit the speed or prevent the transmission of print jobs to the printer. The network frames include error checking, so any data corrupted as it traverses the network would not be accepted by the printer. A bad cable would not cause the final output to be garbled or difficult to read.

C. Printer is low on memory

A printer low on memory would print part of the rendered page. The portion that was rendered would appear normal and would not be garbled or difficult to read.

D. Toner is low

Low toner would cause the output to appear faded. Low toner would not cause the final output to be garbled.



More information:

220-1201, Objective 5.6 - Troubleshooting Printers

<https://professormesser.link/1201050601>

C13. During a presentation in a conference room, the lamp in an LCD projector is turning off after five minutes of use and back on ten minutes later. Which of the following would be the most likely reason for this issue?

- A. The video cable is faulty
 - B. The display lamp has failed
 - C. The cooling process is failing
 - D. The display resolution is incorrect
-

The Answer: C. The cooling process is failing

If an LCD (Liquid Crystal Display) projector becomes overheated, it will automatically turn off to protect the bulb and other components. This is similar to the automatic protections found in laptop and desktop computers, and once the system cools down it can be restarted. If the cooling fans are blocked or not working, this process may continue the cycle until the cooling problem is resolved.

The incorrect answers:

A. The video cable is faulty

A bad video cable would display corrupted or missing information on the screen, but it would not cause a projector to power down.

B. The display lamp has failed

If the lamp has failed, there will be no output from the projector. A bad bulb would not commonly cause the projector to rotate through five-minute use cycles.

D. The display resolution is incorrect

A bad display resolution may show a skewed or non-proportional output on the projected image. A bad display resolution would not cause the projector to power off.



More information:

220-1201, Objective 5.3 - Troubleshooting Display Issues

<https://professormesser.link/1201050301>

C14. A system administrator has just completed a memory upgrade on a database server. When starting the system, this message is displayed: "Boot Device Not Found." The BIOS configuration does not show any hard drives in the system. Which of the following would be the next best troubleshooting step?

- A. Replace the hard drive
 - B. Upgrade the BIOS
 - C. Check the hard drive cables
 - D. Modify the BIOS boot sequence
-

The Answer: C. Check the hard drive cables

A memory upgrade would require work inside of a computer case, and it's very easy to accidentally unseat or disconnect other cables. Since the only change was the memory upgrade, a change to the storage subsystem would not be expected. The most likely cause would be a cable issue.

The incorrect answers:

A. Replace the hard drive

Without knowing the exact reason for the error, a complete hard drive replacement would be premature. Before making such a drastic change, it would be useful to check cables and run diagnostics before determining any hard drive issue.

B. Upgrade the BIOS

An older BIOS (Basic Input Output System) can potentially cause issues with memory upgrades, but those issues would not affect the operation of the hard drive. In this scenario, upgrading the BIOS would not be the first troubleshooting choice, and it probably wouldn't be part of the overall troubleshooting process.

D. Modify the BIOS boot sequence

If one storage device was trying to boot before the hard drive, then modifying the boot sequence would be the correct course of action. In this example, the only change was to the memory and not the boot process.



More information:

220-1201, Objective 5.2 - Troubleshooting Storage Devices

<https://professormesser.link/1201050201>

C15. If a laptop's inverter is faulty, which of the following would be the most likely result?

- A. The battery will not recharge
 - B. The system will not power on
 - C. The screen will be difficult to see
 - D. The USB interfaces will not be powered
-

The Answer: C. The screen will be difficult to see

The inverter is used to convert the DC (Direct Current) power inside of the laptop to AC (Alternating Current). The AC power is then used to power the CCFL (Cold Cathode Florescent Lamp) backlights found in older laptop computers. Without the backlight, it will be very difficult to see the information displayed on an LCD (Liquid Crystal Display) screen.

The incorrect answers:

A. The battery will not recharge

Inverters are not used in the circuit that recharges a laptop battery.

B. The system will not power on

A bad power supply might cause the laptop to stay powered off, but a bad inverter will not affect the power-on process.

D. The USB interfaces will not be powered

The inverter is specific to the backlight power and is not used for powering the USB interfaces.



More information:

220-1201, Objective 3.1 - Display Types

<https://professormesser.link/1201030101>

C16. What is the most common use for the switch on a computer's power supply?

- A. Sets the input voltage
 - B. Controls the speed of the CPU
 - C. Sets the cooling fan speed
 - D. Boots from different operating system partitions
-

The Answer: A. Sets the input voltage

The input voltage to a power supply should match the capabilities of the power supply unit. Many power supply units are voltage switching, and they will automatically adjust between 120 volts and 240 volts based on the input voltage. Alternatively, some power supply units have a switch that must be manually set to specify input voltage.

The incorrect answers:

B. Controls the speed of the CPU

The speed of the CPU (Central Processing Unit) is controlled from the BIOS (Basic Input Output System). The CPU speed would not be based on a power supply switch.

C. Sets the cooling fan speed

The cooling fan speeds are often managed from a fan controller on the motherboard. Fan speeds are not configured from the power supply.

D. Boots from different operating system partitions

The boot manager of a computer determines which operating system will start during the booting process. The boot partition is not configured from the power supply.



More information:

220-1201, Objective 3.6 - Computer Power

<https://professormesser.link/1201030601>

C17. Which of these devices would be used to configure an 802.1Q trunk?

- A. Router
 - B. Repeater
 - C. Managed switch
 - D. Cable modem
-

The Answer: C. Managed switch

A managed switch includes features not found in an unmanaged switch, such as traffic prioritization, redundancy support, remote management, and VLAN (Virtual Local Area Network) support for connectivity to other switches via 802.1Q.

The incorrect answers:

A. Router

A router does not connect to other routers with 802.1Q trunks.

B. Repeater

Repeaters are relatively straightforward devices that do not have complex connectivity to other devices.

D. Cable modem

Cable modems are designed to convert signals from coax cable networks to Ethernet. Cable modems do not interconnect VLANs with other switches using 802.1Q.



More information:

220-1201, Objective 2.5 - Network Devices

<https://professormesser.link/1201020501>

C18. A user is trying to connect a Bluetooth headset to his smartphone, but the headset does not appear in a list of available Bluetooth devices. Which of the following would be the best next step?

- A. Upgrade the smartphone OS
 - B. Enable Bluetooth pairing on the headset
 - C. Connect to the headset with a USB cable
 - D. Replace the smartphone battery
-

The Answer: B. Enable Bluetooth pairing on the headset

A smartphone will often require the Bluetooth devices to be in pairing mode for it to appear in the list of available Bluetooth devices.

The incorrect answers:

A. Upgrade the smartphone OS

Although it's usually important to keep the smartphone OS updated to prevent any security issues and to fix bugs, upgrading the OS is not required to connect a Bluetooth device.

C. Connect to the headset with a USB cable

Some Bluetooth devices support direct wired connections over a USB cable, but connecting wirelessly over Bluetooth requires an initial pairing process to allow communication.

D. Replace the smartphone battery

Replacing the smartphone battery would only be necessary if the battery is no longer reliably holding a charge or if a discharged battery is easily replaceable. The issue of not displaying an available Bluetooth device on the pairing screen would not be related to a battery.



More information:

220-1201, Objective 1.3 - Mobile Device Networks

<https://professormesser.link/1201010301>

C19. A network administrator needs to connect an Ethernet link between two buildings located across the parking lot from each other. The total distance between the buildings is approximately 400 meters. Which of the following technologies would be the best choice for this installation?

- A.** Coax
 - B.** Category 6A
 - C.** Fiber
 - D.** UTP
-

The Answer: **C.** Fiber

Fiber optic communication can extend over very long distances using light instead of radio frequencies. Since the maximum supported distance of most Ethernet connections using copper are one hundred meters, any type of connection needing additional distance would be a good candidate for fiber optic cabling.

The incorrect answers:

A. Coax

Copper coaxial cabling has similar Ethernet distance limitations to twisted-pair copper cabling. Fiber optics allows the signal to extend well beyond the limitations of copper.

B. Category 6A

Category 6A (Augmented) is a specification of twisted pair copper cabling, and the longest supported distance of Ethernet over Category 6A is one hundred meters.

D. UTP

UTP (Unshielded Twisted Pair) cabling can support up to one hundred meters of Ethernet signal, but fiber optics can extend well beyond this limitation.



More information:

220-1201, Objective 3.2 - Optical Fiber

<https://professormesser.link/1201030203>

C20. A systems administrator needs to configure a smartphone to retrieve email messages from the corporate mail server. Which of the following protocols could be configured for this purpose? (Pick TWO)

- A. IMAP
 - B. SSH
 - C. SMTP
 - D. LDAP
 - E. POP3
 - F. FTP
 - G. SMB
-

The Answer: A. IMAP and E. POP3

Two common protocols used to retrieve email messages are IMAP (Internet Message Access Protocol) and POP3 (Post Office Protocol 3).

The incorrect answers:

B. SSH

SSH (Secure Shell) is used to connect a terminal console across an encrypted network connection. SSH is not commonly used for sending or receiving email messages.

C. SMTP

SMTP (Simple Mail Transfer Protocol) is a common email protocol used for sending mail and is not used for retrieving mail.

D. LDAP

LDAP (Lightweight Directory Access Protocol) is used to store and retrieve information in a network directory. One common use of LDAP is to centralize authentication on a large distributed network.

F. FTP

FTP (File Transfer Protocol) is commonly used to transfer files between different systems. FTP does not support the retrieval of email messages from a mail server.

G. SMB

SMB (Server Message Block) is a common file and printer sharing protocol on Microsoft Windows devices.



More information:

220-1201, Objective 2.1 - Common Ports

<https://professormesser.link/1201020102>

C21. A company manages the maintenance of farm equipment and grain silos, and this equipment is often miles away from the nearest Ethernet connection. Which of the following would be the best way to provide connectivity to the maintenance team?

- A. Bluetooth
 - B. 5G
 - C. 802.11
 - D. NFC
-

The Answer: B. 5G

5G (Fifth generation cellular) provides data connectivity over cellular network technologies. This type of wireless connectivity provides access from almost anywhere using a hotspot or a smartphone with hotspot or tethering functionality.

The incorrect answers:

A. Bluetooth

Bluetooth provides flexible wireless connectivity, but only over short distances. Bluetooth would not provide any Internet connectivity in remote areas.

C. 802.11

The 802.11 wireless standards are common in our homes and businesses, but the usable range of an 802.11 network is limited and would not be accessible on the outskirts of a farm.

D. NFC

NFC (Near Field Communication) is designed for small data transfers in a very close area. This limited communications area would not provide network access across an extended distance.



More information:

220-1201, Objective 1.3 - Mobile Device Networks

<https://professormesser.link/1201010301>

C22. Which of these cloud computing architectures would best describe several organizations sharing the same resources?

- A.** Community
 - B.** IaaS
 - C.** Public
 - D.** Hybrid
-

The Answer: **A.** Community

A community cloud model is often used by multiple organizations to build a pool of resources with their combined financial contributions. This multi-tenant model provides a shared cloud-based deployment to organizations with similar goals and objectives.

The incorrect answers:

B. IaaS

IaaS (Infrastructure as a Service) is a cloud deployment model that provides processing power, memory, and storage. The user of this service would provide and manage the operating systems and applications.

C. Public

A public cloud-based service is one that is available to anyone on the Internet.

D. Hybrid

A hybrid cloud deployment model is a combination of both public and private clouds. Some organizations will deploy services used by anyone on the Internet, but may also require services used privately by internal users.



More information:

220-1201, Objective 4.2 - Cloud Models

<https://professormesser.link/1201040201>

C23. What port should be configured in a firewall to block secure terminal communication?

- A. 23
 - B. 443
 - C. 22
 - D. 110
-

The Answer: C. 22

Port 22 is used by SSH (Secure Shell), the encrypted terminal communication protocol.

The incorrect answers:

A. 23

Telnet (Telecommunications Network) is the protocol used for terminal communication, but Telnet communicates insecurely without encrypting the data.

B. 443

Web servers commonly use port 443 to sent encrypted browser traffic using SSL (Secure Sockets Layer) or TLS (Transport Layer Security). Browser traffic is not commonly used for terminal communication.

D. 110

POP3 (Post Office Protocol version 3) uses port 110 to retrieve messages from an email server.



More information:

220-1201, Objective 2.1 - Common Ports

<https://professormesser.link/1201020102>

C24. A user has opened a ticket complaining of a constantly flashing light on the front of their desktop computer. Which of the following is the most likely reason for this issue?

- A.** Power supply status
 - B.** Network communication
 - C.** Storage drive access
 - D.** RAM module transfers
-

The Answer: **C.** Storage drive access

Most computers will provide status lights on the front of the computer. One of the more common lights is a solid light showing that power is available to the system. The other light usually blinks each time access is made to a storage device to visually show access to the drive.

The incorrect answers:

A. Power supply status

A power supply status light may be available on the computer, but the light should be solid and would not normally blink.

B. Network communication

Many network adapters will include status lights on the RJ45 interface connected to the wired Ethernet network. This light is usually on the back or side of the computer and would not commonly be one of the lights on the front of the PC.

D. RAM module transfers

Data is constantly being transferred between RAM, CPU, and storage drives, and it would be uncommon to include a status light for this communication process.



More information:

220-1201, Objective 5.2 - Troubleshooting Storage Devices
<https://professormesser.link/1201050201>

C25. A desktop administrator is troubleshooting an LCD display that shows a faint image at the bottom right of the screen. The faint image is displayed even when spreadsheets or browser screens are shown. Which of the following would be the most likely reason for this issue?

- A.** Dead pixels
 - B.** Incorrect resolution
 - C.** Bad video cable
 - D.** Burn-in
-

The Answer: D. Burn-in

If an image is shown on a screen for an extended period of time, the display may continue to show a faint "ghost" of the image after the display has changed. This burn-in may be temporary, but it can be permanent in extreme circumstances.

The incorrect answers:

A. Dead pixels

A dead pixel is a single pixel that remains black, even when the display is showing a different color. There's usually no more than one dead pixel on a display, and that single pixel would not be large enough to show a faint image.

B. Incorrect resolution

An incorrect resolution may show a skewed or incorrect aspect ratio, and it would not display a faint image on the screen.

C. Bad video cable

A bad video cable might cause noise or missing information on the display, but it would not cause a faint image to constantly appear in a single place on the screen.



More information:

220-1201, Objective 5.3 - Troubleshooting Display Issues

<https://professormesser.link/1201050301>

C26. A systems administrator is troubleshooting a Windows laptop that boots normally but becomes sluggish after login. Which of the following would provide the best source of troubleshooting information?

- A.** Beep codes during startup
 - B.** Power supply voltages
 - C.** Number of installed DIMMs
 - D.** Task Manager statistics
-

The Answer: **D.** Task Manager statistics

Task Manager can provide real-time performance information and can list the applications automatically launched during the startup process. The administrator can enable or disable startup applications to determine if they might be causing the sluggish performance.

The incorrect answers:

A. Beep codes during startup

The BIOS (Basic Input/Output System) of the computer will beep if a problem is found during POST (Power On Self-Test). Since this issue occurs after the startup process is complete, there are most likely no beep codes to diagnose.

B. Power supply voltages

Power supply voltages are usually an issue when components are not working properly. In this example, the issue appears to be related to the overall performance of the operating system and not the use of a single component.

C. Number of installed DIMMs

The number of DIMMs (Dual Inline Memory Modules) can improve performance, but the total amount of RAM would be a much more important metric when troubleshooting performance issues.



More information:

220-1201, Objective 5.1 - Troubleshooting Hardware

<https://professormesser.link/1201050101>

C27. A network administrator has installed a fifty meter network connection from one side of the building to the other, and now he would like to make sure that the punch-downs and crimps are connected to the correct pins on each side. Which of these tools would be the best way to confirm the wiring map?

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

The Answer: **B.** Cable tester

A cable tester can quickly perform a wire map to determine if all of the wires were properly crimped or punched down on both ends of the cable.

The incorrect answers:

A. Network tap

A network tap provides a physical connection into an existing network cable to copy traffic. The information captured from the network tap is often used by an analysis or security tool.

C. Toner probe

Tone generators and inductive probes are useful for identifying the ends of a cable across a long distance, but they won't provide any information about the wire map.

D. Loopback plug

A loopback plug can help when diagnosing a physical network interface, but loopback plugs can't provide any information about the wire map of an existing cable run.



More information:

220-1201, Objective 2.8 - Network Tools

<https://professormesser.link/1201020801>

C28. An administrator is building a new server, and they would like the server to continue operating if the power supply fails. Which of the following would provide this functionality?

- A. Modular power supply
 - B. High wattage rating
 - C. Redundant power supplies
 - D. LCD inverter
-

The Answer: C. Redundant power supplies

One way to avoid an outage after a power supply failure is to have multiple power supplies installed and running. The two power supplies will share the load, and if one power supply fails the remaining power supply will be used to keep the system running.

The incorrect answers:

A. Modular power supply

A modular power supply allows the user to add or remove output cables from the power supply to the internal system. A single modular power supply does not provide uptime if the power supply fails.

B. High wattage rating

A high wattage rating provides additional output power from the power supply, but it doesn't provide any redundancy if the power supply fails.

D. LCD inverter

On older LCD monitors, an inverter is used to power the fluorescent lamps on the display. This inverter will convert DC power to AC power, but it doesn't provide any power for other system components or any redundant power for the system.



More information:

220-1201, Objective 3.6 - Computer Power

<https://professormesser.link/1201030601>

C29. A user in the shipping department would like to connect multiple displays to a desktop computer. Which of the following would support this requirement? (Pick TWO)

- A.** RJ45
 - B.** Lightning
 - C.** Fiber
 - D.** HDMI
 - E.** DB-9
 - F.** DVI-D
-

The Answer: **D.** HDMI and **F.** DVI-D

HDMI (High-Definition Multimedia Interface) and DVI-D (Digital Visual Interface-Digital) are two common video connection types. Some video adapters will provide multiple video connection types and allow different video outputs for each interface.

The incorrect answers:

A. RJ45

RJ45 (Registered Jack 45) is the common copper wire interface for Ethernet networks. Video displays don't commonly use RJ45 connectors.

B. Lightning

Apple's Lightning connectors can be used to send video from a mobile device, but desktop computers don't use the Lightning interface.

C. Fiber

Fiber optic connections are commonly used for long-distance network connections. Fiber optics are not commonly used for video links.

E. DB-9

DB-9 (D-subminiature Size B - 9 pin) is an interface also called DE-9 to specify its size E connector. DB-9/DE-9 is designed for the slower speeds of serial connections and is not used for video interfaces.



More information:

220-1201, Objective 3.2 - Video Cables

<https://professormesser.link/1201030205>

C30. A user is trying to charge their smartphone using the built-in USB interface, but the phone does not show the charging icon and the battery does not charge. Which of the following would be the most likely reason for this issue?

- A.** No wireless connectivity
 - B.** Damaged charging port
 - C.** Broken screen
 - D.** Digitizer not calibrated
-

The Answer: **B.** Damaged charging port

A damaged charging port would prevent the battery from charging through a connected USB cable. In some cases, the port can be cleaned to regain the charging function, but excessive damage may require a replacement of the interface or smartphone.

The incorrect answers:

A. No wireless connectivity

The available cellular or Wi-Fi connectivity does not affect the charging functionality of the smartphone.

C. Broken screen

A broken screen can sometimes cause a challenge when using the smartphone interface, but a broken screen does not generally cause an issue with the charging process.

D. Digitizer not calibrated

The screen digitizer must be calibrated to properly interpret the finger or stylus connection on the display screen. Although this can cause issues with the usability of the smartphone, this does not generally cause an issue with the battery charging process.



More information:

220-1201, Objective 5.4 - Troubleshooting Mobile Devices

<https://professormesser.link/1201050401>

C31. A system administrator is designing a network with a priority towards uptime and availability of the public-facing company website. Which of the following should be included with this design?

- A.** AAA server
 - B.** UTM
 - C.** Load balancer
 - D.** Patch panel
-

The Answer: **C.** Load balancer

A load balancer is used to distribute a load between a group of available servers. If any server in this group was to fail, the load balancer would automatically redistribute the load to the remaining servers to provide uptime and availability.

The incorrect answers:

A. AAA server

An AAA (Authentication, Authorization, and Accounting) server provides a centralized login service and is usually available on most enterprise network implementations. An AAA server does not inherently provide any additional uptime or availability features.

B. UTM

A UTM (Unified Threat Management) device is considered an all-in-one security appliance and commonly combines a firewall with URL inspection, malware detection, IPS functionality, and more. A UTM does not provide any additional uptime or availability for web servers.

D. Patch panel

A patch panel provides a termination point for large groups of cable runs. These patch panels allow for connectivity to switches and other devices without moving or changing the cable run to the user's desk. A patch panel does not provide any additional redundancy features for servers.



More information:

220-1201, Objective 2.3 - Network Services
<https://professormesser.link/1201020301>

C32. A user is replacing an empty paper roll in a printer with one that was purchased to match the model of the printer. Which of the following would best describe this printer type?

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

The Answer: **A.** Thermal

Thermal printers require a specialized paper type which turns dark when heat is applied. There are many different sizes of thermal printers, so the paper is often purchased to match the specific thermal printer model.

The incorrect answers:

B. Laser

A laser printer applies heat and pressure to toner particles during the printing process, and a laser printer commonly works with any type of copier or printer paper.

C. Impact

An impact printer commonly uses a ribbon to transfer an image to a page. The paper used on an impact printer is common across many printer types.

D. Inkjet

Inkjet printers create the final output by placing fine dots of ink from a storage container inside of the printer. Inkjet printers effectively use the same printer paper as laser and impact printers.



More information:

220-1201, Objective 3.8 - Thermal Printer Maintenance

<https://professormesser.link/1201030806>

C33. A network engineer is installing a cable modem at a remote site. Which of these connectors would commonly be found on a cable modem?

- A.** DB-9
 - B.** eSATA
 - C.** M.2
 - D.** F-connector
-

The Answer: **D.** F-connector

The F-connector is the common coax screw-on connector used for television cable or cable modems. A cable modem installation will often use coax from the cable provider, and the F-connector is used to connect the coax to the cable modem.

The incorrect answers:

A. DB-9

A DB-9 (D-subminiature 9-pin) connector is commonly used for RS-232 signals sent over a serial connection. The management or configuration interface on a switch or router commonly uses DB-9 or other serial connections.

B. eSATA

eSATA (External Serial ATA) is a standard for connecting external storage devices to a computer or laptop. eSATA is not associated with cable modems or network connections.

C. M.2

M.2 interfaces are small form-factor connections primarily used for storage drive connectivity on a motherboard. M.2 connections are not commonly used on the outside of a case or device.



More information:

220-1201, Objective 2.5 - Network Devices

<https://professormesser.link/1201020501>

C34. A technician has just upgraded the memory on a desktop computer. After the computer runs for a few minutes, the system locks up completely and does not respond to keyboard or mouse input. After rebooting, no error messages are found in Event Viewer. Which of the following would be the best next troubleshooting step?

- A.** Reinstall the operating system
 - B.** Upgrade the BIOS
 - C.** Update device drivers
 - D.** Run hardware diagnostics
-

The Answer: **D.** Run hardware diagnostics

Issues that result in the system hanging without any additional information can be frustrating to troubleshoot. Since there are no error messages or log entries associated with the issue, the best option would be to perform a hardware diagnostic and at least confirm that the hardware is working as expected.

The incorrect answers:

A. Reinstall the operating system

Without any error messages or log entries, there's no way to know if the operating system is the issue. Instead of making such a significant change, it would be useful to gather more information about the current system and any potential issues.

B. Upgrade the BIOS

There's no evidence that the BIOS is associated with these lockup issues, and it would be unusual for a BIOS to be the root cause of this issue. Because of these reasons, upgrading the BIOS and making a change to the computer would not be the best next troubleshooting step.

C. Update device drivers

A bad device driver can certainly cause problems with a system, but normally there would be an operating system error or Windows Stop message that would provide more information. Before making any changes, it would be good to rule out any hardware problems first.



More information:

220-1201, Objective 5.1 - Troubleshooting Hardware

<https://professormesser.link/1201050101>

C35. Which of these network types would most likely be categorized as a WAN?

- A. A point-to-point connection to an office in another country
 - B. A fiber connection to a building across a campus
 - C. A connection to a remote office on the other side of town
 - D. A link between a mobile device and an automobile
-

The Answer: A. A point-to-point connection to an office in another country

WAN (Wide Area Network) connections are between locations in different cities, states, or countries.

The incorrect answers:

B. A fiber connection to a building across a campus

A network within a building or a campus is categorized as a LAN (Local Area Network).

C. A connection to a remote office on the other side of town

Networks that connect sites in the same city are MANs (Metropolitan Area Networks). MAN links are usually farther away than LANs, but not as far as a WAN.

D. A link between a mobile device and an automobile

A PAN (Personal Area Network) describes the network used by an individual to connect their mobile device and accessories. For example, the Bluetooth network connecting a mobile phone with a wireless headset is a PAN.



More information:

220-1201, Objective 2.7 - Network Types

<https://professormesser.link/1201020702>

C36. A technician is connecting two buildings using a fiber optic link. Which of these connectors would be commonly associated with this media type?

- A.** RJ45
 - B.** F
 - C.** Molex
 - D.** SC
-

The Answer: D. SC

An SC (Subscriber Connector or "Square Connector") interface is a common type of connection for fiber optic terminations.

The incorrect answers:

A. RJ45

RJ45 connectors are copper connectors and are often associated with twisted-pair Ethernet cable links.

B. F

An F-connector is a threaded copper connector commonly associated with coax cable and cable modem interfaces.

C. Molex

A Molex connection is a power interface usually found inside of desktop computer cases.



More information:

220-1201, Objective 3.2 - Fiber Connectors

<https://professormesser.link/1201030209>

C37. A system administrator is configuring the IP address settings on a remote server. Which of these settings would enable the server to communicate with other devices using a fully qualified domain name?

- A. DHCP
 - B. IP address
 - C. DNS
 - D. Subnet mask
-

The Answer: C. DNS

A DNS (Domain Name System) server provides the conversion between fully qualified domain names and IP (Internet Protocol) addresses. With a DNS, we can refer to servers by their name instead of using IP addresses.

The incorrect answers:

A. DHCP

DHCP (Dynamic Host Configuration Protocol) is used to automatically assign IP address configurations when a device connects to the network. Although DHCP can configure the DNS address, it's the DNS server itself that provides the resolution between name and IP address.

B. IP address

Each device on the network is provided a unique IP address, and DNS provides the conversion between the name of the device and this unique IP address.

D. Subnet mask

Subnet masks are used by the local device to determine its IP subnet. Using a subnet mask does not provide any communication based on a fully qualified domain name.



More information:

220-1201, Objective 2.6 - IPv4 and IPv6

<https://professormesser.link/1201020601>

C38. Which of the following devices makes forwarding decisions based on destination IP address?

- A. ONT
 - B. Router
 - C. NIC
 - D. Managed switch
-

The Answer: B. Router

A router decides the next hop of a packet based on the packet's destination IP (Internet Protocol) address.

The incorrect answers:

A. ONT

An ONT (Optical Network Terminal) is a demarcation point that commonly connects a fiber link from a network provider to the copper services inside of a home or business.

C. NIC

A NIC (Network Interface Card) is the network card installed in a network device. For example, an Ethernet adapter or wireless adapter is the NIC for that network type.

D. Managed switch

Both managed and unmanaged switches make forwarding decisions the same way. A switch examines the destination MAC (Media Access Control) address in a frame and forwards traffic based on that address. A switch does not make decisions based on IP address.



More information:

220-1201, Objective 2.5 - Network Devices

<https://professormesser.link/1201020501>

C39. A system administrator needs to test a new application simultaneously across macOS, Windows, and Linux. Which of the following would be the best choice for this requirement?

- A.** Multiple partitions
 - B.** SaaS
 - C.** Cross-platform virtualization
 - D.** High availability
-

The Answer: **C.** Cross-platform virtualization

Cross-platform virtualization allows the user to run multiple operating systems simultaneously.

The incorrect answers:

A. Multiple partitions

It's possible to install multiple operating systems on different partitions, but these would not be usable simultaneously and you would need to reboot to use each OS.

B. SaaS

SaaS (Software as a Service) provides access to an application. SaaS does not provide access to an operating system or allow for running multiple operating systems simultaneously.

D. High availability

High availability provides a way to maintain uptime and availability in the case of a failed service or inoperable hardware. For example, it's common for an organization to maintain two separate routers to the Internet in case one of those routers becomes unavailable.



More information:

220-1201, Objective 4.1 - Virtualization Services

<https://professormesser.link/1201040102>

C40. A user in the accounting department had a new laptop delivered and installed, but they are reporting that the network throughput seems much slower than the previous computer. Which of the following would be the most likely cause of these slow transfer speeds?

- A.** Incorrect SSID
 - B.** Device is assigned an APIPA address
 - C.** Incorrect gateway configuration
 - D.** Duplex mismatch
 - E.** Device is assigned an RFC 1918 address
-

The Answer: **D.** Duplex mismatch

A mismatch of half-duplex and full-duplex will not cause a total disruption of network communication, but it will cause the network to perform slowly.

The incorrect answers:

A. Incorrect SSID

The SSID (Service Set Identifier) is the name associated with a wireless network. An incorrect SSID would not cause performance issues on the network.

B. Device is assigned an APIPA address

An APIPA (Automatic Private IP Addressing) address is assigned when a DHCP server is not available. This link-local address can only communicate to other devices on the same network, but the performance of that communication would not have slower performance than normal network data.

C. Incorrect gateway configuration

An incorrect gateway configuration would limit the laptop from communicating beyond the local network, but it would not commonly cause the network traffic to perform slower than expected.

E. Device is assigned an RFC 1918 address

An RFC 1918 (Request for Comment document 1918) address is a private IP address commonly assigned to most devices on our local networks. An RFC 1918 address does not cause a performance issue when communicating over the network.



More information:

220-1201, Objective 5.5 - Troubleshooting Networks

<https://professormesser.link/1201050501>

C41. A workstation is configured with a video card that outputs DVI-D, but it needs to connect to an LCD projector with an HDMI connection. Which of the following would be the best way to connect this workstation to the projector?

- A. DVI-D to HDMI adapter
 - B. Digital to analog converter
 - C. VGA to HDMI adapter
 - D. USB to HDMI converter
-

The Answer: A. DVI-D to HDMI adapter

DVI-D (Digital Visual Interface-Digital) and HDMI (High-Definition Multimedia Interface) are electrically compatible and only require an interface adapter to connect between devices. No conversion of the video signal is required between DVI-D and HDMI.

The incorrect answers:

B. Digital to analog converter

Both DVI-D and HDMI are digital, so converting to analog would not be an appropriate option.

C. VGA to HDMI adapter

VGA (Video Graphics Array) provides an analog video signal, and the interface for VGA is quite different than DVI-D.

D. USB to HDMI converter

Although USB can output video signals, the process requires a conversion between USB and HDMI. It's much simpler to connect DVI-D and HDMI directly together with no conversion of the signal.



More information:

220-1201, Objective 3.2 - Adapters and Converters

<https://professormesser.link/1201030207>

C42. An Android user needs to transfer some presentations from their desktop computer to their smartphone. Which of the following would be the best choice?

- A. Lightning
 - B. RJ45
 - C. USB-C
 - D. Thunderbolt
-

The Answer: C. USB-C

USB-C is a connection type used on many Android-based devices.

The incorrect answers:

A. Lightning

Lightning interfaces are exclusive to Apple iOS devices. Android devices do not use lightning connectors.

B. RJ45

RJ45 connectors are common on Ethernet cables, but they're too large for today's thin smartphones.

D. Thunderbolt

Thunderbolt interfaces are common on desktop computers. Android and iOS devices do not use Thunderbolt connections.



More information:

220-1201, Objective 1.2 - Connecting Mobile Devices

<https://professormesser.link/1201010201>

C43. What type of network connection is commonly used by DSL?

- A. Coax
 - B. Fiber optic
 - C. 802.11
 - D. Twisted pair copper
-

The Answer: D. Twisted pair copper

DSL (Digital Subscriber Line) networks use the same twisted pair copper as traditional phone lines.

The incorrect answers:

A. Coax

Coaxial cables are commonly associated with cable television and cable modem networks.

B. Fiber optic

Fiber optic communication is a common network type for long distance communication, but fiber optic is not used to bring DSL Internet links into a home or business.

C. 802.11

802.11 wireless networks are commonly used for short-range communication in a single building or home. DSL runs can extend for miles over twisted pair copper cable.



More information:

220-1201, Objective 2.7 - Internet Connection Types

<https://professormesser.link/1201020701>

C44. An administrator is building a computer system to stream live corporate events. Which of the following should be installed to provide input for the live stream?

- A. Capture card
 - B. Thermal pads
 - C. HSM
 - D. M.2
-

The Answer: A. Capture card

A capture card can be used as an input for video and audio. This input can be stored on a drive or used as input to a streaming service.

The incorrect answers:

B. Thermal pads

Thermal pads are used to create a good connection to dissipate heat from a hot component. Thermal pads are not used for audio or video input.

C. HSM

An HSM (Hardware Security Module) is used to provide cryptographic functions on a computing device. Many motherboards will include an HSM and BitLocker will use the HSM to create and store cryptographic keys.

D. M.2

An M.2 interface is commonly used as a connection point for storage or network devices. An M.2 interface is not commonly used as input for audio or video.



More information:

220-1201, Objective 3.5 - Expansion Cards

<https://professormesser.link/1201030509>

C45. A user's workstation has been configured with the IP address of 172.20.122.45. Which of the following would best describe this IP address type?

- A. Loopback
 - B. Private
 - C. Static
 - D. APIPA
-

The Answer: B. Private

An IP address is private if it is in the ranges of 10.0.0.0/8, 172.16.0.0/12, and 192.168.0.0/16. The address of 172.20.122.45 is in the range between 172.16.0.0 through 172.31.255.255.

The incorrect answers:

A. Loopback

A loopback address is any IP address in the range of 127.0.0.0/8. A common loopback address reference on any device is 127.0.0.1.

C. Static

A static IP address is one which does not change, and it's often configured manually on a computer or by using a DHCP reservation. There's not enough information in this question to determine if the IP address is static or dynamic.

D. APIPA

An APIPA (Automatic Private IP Address) is in the range between 169.245.0.0 through 169.254.255.255. The IP address in this question does not fall into this predefined APIPA range.



More information:

220-1201, Objective 2.6 - IPv4 and IPv6
<https://professormesser.link/1201020601>

C46. What type of proprietary Apple connector can be plugged in face up or face down?

- A. Lightning
 - B. Thunderbolt
 - C. SATA
 - D. USB-C
-

The Answer: A. Lightning

The Apple lightning connector is only found on Apple devices, and it allows for a higher power output to charge larger phone and tablets. The connector can also be plugged in either face up or face down.

The incorrect answers:

B. Thunderbolt

Thunderbolt connectors are common on Apple devices, but they are not proprietary to Apple and are also found on many other manufacturer's devices.

C. SATA

A SATA (Serial ATA) connector is an internal motherboard storage connector. SATA connectors are not specific to Apple devices, and they do not allow for different connection orientations.

D. USB-C

USB-C is an industry standard used by many different manufacturers, and the USB-C connector can be plugged in either face up or face down.



More information:

220-1201, Objective 1.2 - Connecting Mobile Devices

<https://professormesser.link/1201010201>

C47. Which of the following best describes elasticity in cloud computing?

- A. A cloud-based application framework is used to build more complex apps
 - B. The cloud operates in an internal virtualized data center
 - C. All cloud storage is managed from a central pool
 - D. Cloud resources can scale up as needed
-

The Answer: D. Cloud resources can scale up as needed

Rapid elasticity is a cloud computing characteristic that allows the scaling up and down of cloud-based applications on an as-needed basis.

The incorrect answers:

A. A cloud-based application framework is used to build more complex apps

PaaS (Platform as a Service) is a cloud deployment model providing a centralized and managed framework for advanced application development.

B. The cloud operates in an internal virtualized data center

An internal cloud-based infrastructure is categorized as a private cloud deployment model.

C. All cloud storage is managed from a central pool

Resource pooling is an important characteristic in cloud computing. All computing resources can centralized, and portions of the pool can be used for each cloud resource as needed.



More information:

220-1201, Objective 4.2 - Cloud Models

<https://professormesser.link/1201040201>

C48. A company would like to configure a Sender Policy Framework (SPF) record in their DNS. Which of the following should be configured in the DNS server?

- A.** AAAA
 - B.** TXT
 - C.** MX
 - D.** DKIM
-

The Answer: **B.** TXT

The TXT, or text record, can be used in a DNS server to specify the SPF information. The SPF record documents the list of email servers authorized to send emails for the domain.

The incorrect answers:

A. AAAA

An AAAA (IPv6 address) record in a DNS server is used to specify the IPv6 address associated with a hostname.

C. MX

An MX (Mail Exchanger) record is used to designate the hostname used as the email server for all incoming messages.

D. DKIM

A DKIM (Domain Keys Identified Mail) is a TXT record containing the public key associated with the domain's outgoing emails.



More information:

220-1201, Objective 2.4 - DNS Configuration

<https://professormesser.link/1201020401>

C49. Which of the following would be most commonly associated with the management interface on a switch?

- A. ST
 - B. 802.11
 - C. DB-9
 - D. Thunderbolt
-

The Answer: C. DB-9

The serial connectivity used with a DB-9 (D-subminiature size B, 9 pin) interface is usually associated with management ports on switches, router, and other infrastructure devices.

The incorrect answers:

A. ST

An ST (Straight Tip) connector is a fiber optic connector type.

Management interfaces are usually copper interfaces using a DB-9 or USB (Universal Serial Bus) connectors.

B. 802.11

The management interface on a switch or router is typically a wired connection. 802.11 wireless networking is not commonly associated with management or console interfaces.

D. Thunderbolt

A Thunderbolt interface is commonly used for high-speed data communication, and Thunderbolt is often associated with external storage devices and video displays.



More information:

220-1201, Objective 3.2 - Copper Connectors

<https://professormesser.link/1201030208>

C50. A user has reported they can't browse to Google's search page at <https://www.google.com>. The workstation IP address is 192.168.1.5, the subnet mask is 255.255.255.0, the default gateway is 192.168.1.1, and the domain name servers are 10.2.2.1 and 10.2.2.2. A technician can successfully ping the local IP address, the default gateway, and Google's DNS server at 8.8.8.8. Which of the following is the most likely cause of this issue?

- A. The Ethernet adapter's duplex setting is incorrect
 - B. The default gateway is faulty
 - C. The Internet connection is down
 - D. The DNS servers are faulty
 - E. The client's default gateway configuration is incorrect
-

The Answer: D. The DNS servers are faulty

The DNS (Domain Name System) servers are responsible for converting a fully-qualified domain name (www.google.com) to an IP address. If the DNS servers are not working, then an IP address for a device cannot be resolved and the communications process can't continue.

The incorrect answers:

A. The Ethernet adapter's duplex setting is incorrect

A duplex mismatch can cause performance slowdowns, but it would not restrict access to a website.

B. The default gateway is faulty

The successful ping of Google's DNS server at 8.8.8.8 is a communication occurring to a different network, so we know that the default gateway is operating correctly.

C. The Internet connection is down

If the Internet connection was not working, the ping to Google's DNS server at 8.8.8.8 would not be successful.

E. The client's default gateway configuration is incorrect

The ping to an external address is working properly, so the default gateway configuration is most likely not the cause of this issue.



More information:

220-1201, Objective 5.5 - Troubleshooting Networks

<https://professormesser.link/1201050501>

C51. A user in the facilities department is having an issue printing their blueprints to a network laser printer. When they pick up their output, the page contains specks and small dots randomly printed on the page with the final output. Which of these is the most likely cause of this issue?

- A. Network is faulty
 - B. Optical drum is not clean
 - C. Page description language is incorrect
 - D. Printer is low on toner
-

The Answer: B. Optical drum is not clean

The cleaning process of a laser printer removes any non-used toner from the optical drum after one cycle of the printing process. If the cleaning process isn't working properly, extra toner will remain on the drum and can be transferred to the next section of the page output as dots or specs on the page.

The incorrect answers:

A. Network is faulty

A problem with the network might cause a slow transfer of the print job to the printer, but it wouldn't cause a portion of the page to be spotted or speckled.

C. Page description language is incorrect

The page description language must match between the printing device and the printer. If the page description language is incorrect, the printer will output a garbled print or the plain text of a page description language such as PostScript. An incorrect page description language would not cause specs or dots on the printed page.

D. Printer is low on toner

A laser printer low on toner would show a gradual fading of images as each page is printed. The low toner would not cause dots or speckles to appear on the final output.



More information:

220-1201, Objective 5.6 - Troubleshooting Printers

<https://professormesser.link/1201050601>

- C52.** A user would like to ensure all apps on their smartphone use 802.11 networking instead of the cellular network. Which of the following would provide this functionality?
- A.** Enable data caps
 - B.** Use biometric authentication
 - C.** Synchronize to the cloud
 - D.** VPN client
-

The Answer: **A.** Enable data caps

Most smartphones include the ability to set limits on how much data is transferred over certain network types. For example, iOS can be configured to allow or disallow downloads over a cellular network and can limit the size of downloads if a cellular network is enabled.

The incorrect answers:

B. Use biometric authentication

The authentication process on a smartphone is useful for limiting access to the device, but the authentication settings do not limit network access for certain apps.

C. Synchronize to the cloud

Synchronizing to a cloud-based storage system may provide useful backups and file storage, but it doesn't modify the network connectivity used for apps.

D. VPN client

A VPN client creates an encrypted tunnel to protect any network communication from a device. Using a VPN doesn't change the communication method used by apps on a smartphone.



More information:

220-1201, Objective 1.3 - Mobile Device Management

<https://professormesser.link/1201010302>

C53. A network administrator is installing an Ethernet cable containing gel and a ground wire. Which of the following would most likely describe this cable?

- A. Plenum
 - B. Direct burial
 - C. Optical
 - D. Ethernet patch
-

The Answer: B. Direct burial

A direct burial cable is designed to be installed in the ground, so it includes waterproof gel to protect the copper cables. The cables also include a ground wire to support an electrical ground.

The incorrect answers:

A. Plenum

A plenum-rated cable includes fire suppression with low flame and smoke characteristics for use in the plenum area above a ceiling. Plenum rated cables do not include gel in the cable.

C. Optical

Fiber optics are useful for transmitting data over extended distances, but they do not commonly include a ground wire. Fiber optics are not conductive and do not require an electrical ground.

D. Ethernet patch

An Ethernet patch cable is often used for short connections between a switch and patch panel, or between a wall jack and a computer. Patch panels do not commonly include gel or a ground wire.



More information:

220-1201, Objective 3.2 - Network Cables
<https://professormesser.link/1201030201>

C54. A Windows computer is configured to obtain an IP address automatically. Which of the following would occur if the automatic assignment process was not working?

- A.** The IP address would be set to 0.0.0.0
 - B.** A link-local address would be assigned
 - C.** The Ethernet adapter would be disabled
 - D.** The last known good IP address would be used
-

The Answer: **B.** A link-local address would be assigned

If a device is configured to obtain an IP address from a DHCP (Dynamic Host Configuration Protocol) server and the DHCP server is not available, an APIPA (Automatic Private IP Addressing) address, or link-local address, would be assigned.

The incorrect answers:

A. The IP address would be set to 0.0.0.0

IP address configurations of 0.0.0.0 are not valid for normal network communication.

C. The Ethernet adapter would be disabled

Although an IP address would not be obtained from a DHCP server, the operating system would not disable the entire network adapter.

D. The last known good IP address would be used

If the DHCP process was not working, the computer would not assume the previous IP address would still be available. Instead, the computer would assign itself an APIPA address for local communication.



More information:

220-1201, Objective 2.6 - Assigning IP Addresses

<https://professormesser.link/1201020602>

C55. A web server administrator has received a notification that disk 1 in a RAID 5 array has failed. Which of the following would be the best next step to resolve this drive failure?

- A. Replace disk 1 and restore from backup
 - B. Replace all drives and restore from backup
 - C. Replace all drives and rebuild the array
 - D. Replace disk 1 and rebuild the array
-

The Answer: D. Replace disk 1 and rebuild the array

A RAID 5 (Redundant Array of Independent Disks, level 5) array is designed to maintain data availability in the event of a single drive failure. In this example, it's unlikely that the users even realized one of the drives on the array was suddenly unavailable because the array would continue to operate normally with all data intact. To resolve this issue, the bad drive would need to be replaced, and the array would rebuild the data on the new drive using the redundant data from other drives.

The incorrect answers:

A. Replace disk 1 and restore from backup

No data was lost on the RAID 5 array, and the array will continue to provide access to read data and write data to the array. A restoration from backup is not required after replacing the bad drive.

B. Replace all drives and restore from backup

Only one drive has failed, so there's no need to replace the good drives. A RAID 5 array will also maintain availability of the data, so restoring from a backup is also not required.

C. Replace all drives and rebuild the array

If all drives are replaced in the RAID 5 array, there would be no data to rebuild from. The bad drive is the only drive that needs to be replaced, and the rebuilding process will reconstruct the data on the new drive.



More information:

220-1201, Objective 5.2 - Troubleshooting Storage Devices
<https://professormesser.link/1201050201>

C56. A high speed network provides access to a large array of hard drives.
Which of the following would best describe this type of network?

- A.** PAN
 - B.** LAN
 - C.** SAN
 - D.** MAN
-

The Answer: C. SAN

A SAN (Storage Area Network) is a high-speed network connecting users with large data stores. The SAN looks and feels like a local storage device, and provides block-level access for efficient reading and writing.

The incorrect answers:

A. PAN

PAN (Personal Area Network) connections describe the wireless links between mobile devices and personal accessories. For example, a Bluetooth headset would be considered a PAN connection.

B. LAN

A LAN (Local Area Network) describes the network used in the immediate vicinity to a computing devices. The Ethernet network in a business or home would be considered a LAN.

D. MAN

MAN (Metropolitan Area Network) links are usually within the same city or general metropolitan area. MANs are usually the midpoint between a LAN and a WAN (Wide Area Network).



More information:

220-1201, Objective 2.7 - Network Types

<https://professormesser.link/1201020702>

C57. A user in the accounting department is reporting that all of the printed pages from a networked laser printer are completely blank. Nothing appears to be written on any of the printed pages. Which of the following would be the most likely cause of this issue?

- A. Incorrect page description language
 - B. Print drivers are incorrect
 - C. Printer out of memory
 - D. Toner cartridge is faulty
-

The Answer: D. Toner cartridge is faulty

If the toner cartridge is completely empty or is not properly providing toner to the printer, then nothing will be printed on the final output.

The incorrect answers:

A. Incorrect page description language

An incorrectly configured printer using PCL (Printer Command Language) or PostScript will commonly produce garbled output or plain text PostScript. The output of a page printed with the incorrect page description language would not be blank.

B. Print drivers are incorrect

An incorrect print driver could cause the output to be garbled or different than the original, but it would not cause the page to appear blank.

C. Printer out of memory

When a printer runs out of memory during the page rendering process, it will continue with the printing process but only a portion of the page is printed. The printer will also display a message on the printer console regarding the memory issue. An out of memory condition does not commonly print blank pages.



More information:

220-1201, Objective 5.6 - Troubleshooting Printers

<https://professormesser.link/1201050601>

C58. A systems administrator has just installed a new server in a data center. When pressing the power button, there's no response from the server, no lights appear on the front display, and no fans are spinning. Which of the following would be the most likely reason for this issue?

- A.** An operating system is not installed on the server
 - B.** The power supply switch is set to the wrong input voltage
 - C.** The BIOS needs to be upgraded
 - D.** The keyboard and mouse are not connected
-

The Answer: **B.** The power supply switch is set to the wrong input voltage. If the data center power provides 120 volts and the computer's power supply is set to 240 volts, the computer will not be able to start. Some power supplies will attempt to start with the lower voltage while other power supplies will not work at all. In either case, the computer is not going to perform properly with the lower voltage and may be damaged by the difference in expected voltage.

The incorrect answers:

A. An operating system is not installed on the server

An operating system is not required to power on a computer. Once the POST (Power On Self-Test) process completes, a computer without an operating system will provide an error message on the screen such as "No Bootable Device."

C. The BIOS needs to be upgraded

A BIOS upgrade is not required to power on a computer. Upgrading the BIOS is not a common process, and it's not required to have a system power on.

D. The keyboard and mouse are not connected

The lack of a keyboard or mouse will not prevent a computer from powering on, but the BIOS may provide a message after the POST process that a keyboard is not connected to the system.



More information:

220-1201, Objective 3.6 - Computer Power

<https://professormesser.link/1201030601>

C59. Which of the following services would automatically provide an IP address to any device connected to the network?

- A. DNS
 - B. Proxy
 - C. IPS
 - D. DHCP
-

The Answer: D. DHCP

DHCP (Dynamic Host Configuration Protocol) is used to automatically assign IP addresses to network devices. A device configured to use DHCP will be assigned an IP address without any intervention from the user or network administrator.

The incorrect answers:

A. DNS

DNS (Domain Name System) is used to translate between a fully qualified domain name (FQDN) and an IP (Internet Protocol) address. This functionality allows the user to type www.professormesser.com instead of memorizing a specific IP address.

B. Proxy

Proxies are used to sit between a network conversation to provide additional management or security features. Proxies are not used to automatically assign IP addresses.

C. IPS

An IPS (Intrusion Prevention System) can identify known attacks and block them before they enter the network. An IPS is not used to automatically assign IP addresses.



More information:

220-1201, Objective 2.3 - Network Services

<https://professormesser.link/1201020301>

C60. A network administrator is installing a network link containing an LC connector. Which of the following would be the most likely connection for this link?

- A.** Cable modem
 - B.** Access point
 - C.** Internet firewall
 - D.** Link between buildings
-

The Answer: **D.** Link between buildings

Connections between buildings tend to exceed the distance allowed for copper cabling, so fiber optics are often used to communicate over this extended distance. The LC (Lucent Connector) interface is a common fiber optic connector.

The incorrect answers:

A. Cable modem

A cable modem usually connects with an F-connector from the cable provider and RJ45 Ethernet links on the inside. Fiber optics are not usually directly connected to a cable modem.

B. Access point

An access point is commonly connected over a copper Ethernet connection for both data and for PoE (Power over Ethernet) power. Fiber optic connections are not commonly associated with access points.

C. Internet firewall

An Internet firewall may support fiber connections, but it's not the most common interface type. Given the available options, it's much more likely to use fiber optics to connect buildings in a campus or corporate facility.



More information:

220-1201, Objective 3.2 - Fiber Connectors

<https://professormesser.link/1201030209>

C61. A computer lab is purchasing supplies for their dot-matrix printers.
Which of the following should be included on this order?

- A. Toner cartridge
 - B. Heating element
 - C. Ink ribbon
 - D. Ink cartridge
-

The Answer: C. Ink ribbon

Ink ribbons are commonly used by impact printers or dot matrix printers. The printer head of an impact printer pushes pins into the ribbon which then presses onto the page to provide the printed output.

The incorrect answers:

A. Toner cartridge

Toner cartridges are used by laser printers to create the output on the page. A dot-matrix printer does not use toner cartridges.

B. Heating element

A heating element is used in a thermal printer with thermochromic paper. A heating element would not be used in a dot-matrix printer.

D. Ink cartridge

Inkjet printers use cartridges to store the ink used during the printing process. Dot-matrix printers do not use ink cartridges.



More information:

220-1201, Objective 3.8 - Impact Printer Maintenance

<https://professormesser.link/1201030808>

C62. A system administrator is installing a lightweight and standalone executable package containing an application and all of its dependencies. This package is isolated from other installed packages and the underlying host operating system. Which of the following would best describe this package?

- A.** Container
 - B.** Archive
 - C.** Cabinet
 - D.** VDI
-

The Answer: **A.** Container

An application container is a standalone package containing everything needed to run an application instance, including all of the files and dependencies. The host operating system is not included in the container, and the OS is commonly shared across all containers on the system.

The incorrect answers:

B. Archive

An archive describes a group of files and folders which have been saved for future use. This archive might be a backup, it might be used for future installations, or it may just hold a group of unrelated data files. We would not commonly refer to an application container as an archive.

C. Cabinet

A cabinet is an archive format used in Microsoft Windows. Cabinet files commonly have a CAB file extension, and would not describe a modular application container.

D. VDI

VDI (Virtual Desktop Infrastructure) provides a technology for accessing virtualized desktops from a central server instead of on individual local computers. VDI does not describe the use of an application container.



More information:

220-1201, Objective 4.1 - Virtualization Services
<https://professormesser.link/1201040102>

C63. A server administrator is building a web server with three hard disk drives. The storage for the server requires the fastest possible access and redundancy is not a primary requirement. Which of the following would be the best choice for this server?

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

The Answer: C. RAID 0

RAID (Redundant Array of Independent Disks) level 0 does not provide any redundancy, but it will efficiently stripe data across multiple drives. RAID 0 does not require the duplication of data or calculation of parity, so it's commonly considered the fastest access of the RAID levels.

The incorrect answers:

A. RAID 10

RAID 10 combines both striping and mirroring to provide a redundant data array. However, RAID 10 requires four drives and the web server in this question only has three.

B. RAID 1

RAID 1 is also known as mirroring, and RAID 1 information is duplicated between separate physical drives. The process of duplicating this data makes the efficiency of RAID 1 to be a bit less efficient than RAID 0 striping.

D. RAID 5

RAID 5 provides redundancy by calculating a parity and storing that parity along with the original data. This parity calculation is not a significant performance issue, but it does make RAID 5 generally perform a bit less efficiently than RAID 0.



More information:

220-1201, Objective 3.4 - RAID

<https://professormesser.link/1201030402>

C64. A company is consolidating Event Viewer information from all Windows Servers to a centralized repository. Which of the following services would provide this functionality?

- A. DNS
 - B. Syslog
 - C. NTP
 - D. UTM
-

The Answer: B. Syslog

Syslog is a standard protocol for transmitting log files from network devices to a centralized log database. This standard format allows routers, switches, servers, firewalls, and any other device to send their log information to this central repository.

The incorrect answers:

A. DNS

DNS (Domain Name System) is a set of services commonly used to provide a resolution between an FQDN (Fully Qualified Domain Name) and an IP address. DNS does not provide any features for transferring log information.

C. NTP

NTP (Network Time Protocol) is a protocol commonly used to synchronize the time of day on all network devices. This synchronization ensures all devices are using the same time and date for all logs, cryptographic functions, authentications, and all other network services.

D. UTM

A UTM (Unified Threat Management) device is a type of firewall which includes many different security features in a single appliance. A UTM does not provide a standard format for transferring log files, although a UTM might use Syslog to send its own log files to repository.



More information:

220-1201, Objective 2.3 - Network Services
<https://professormesser.link/1201020301>

C65. A developer has requested a server for testing a new application. To complete this request, the system administrator logs into his cloud console and allocates a new server configuration. Which of the following best describes the process of creating this server?

- A.** Metered utilization
 - B.** File synchronization
 - C.** Availability
 - D.** Shared resources
-

The Answer: **D.** Shared resources

It's common to place all of the computing resources in one place for all cloud services. As new cloud-based systems are created, the CPU, memory, storage, and other technologies needed to build these systems are allocated from this central pool of shared resources.

The incorrect answers:

A. Metered utilization

A metered cloud computing service is used to apply costs back to actual usage. For example, a user's costs could be based on the number of uploads, downloads, and total storage space used on a cloud computing platform. This can be compared to a non-metered service, which commonly uses a set cost for usage.

B. File synchronization

Many cloud-based deployments occur between multiple data centers, so it's important to synchronize information between locations. In this example, there's no mention of multiple locations or application data.

C. Availability

A highly available configuration would maintain uptime and availability if any component was to unexpectedly fail. For example, multiple network connections would maintain connectivity if one of those connections was to become unavailable.



More information:

220-1201, Objective 4.2 - Cloud Characteristics

<https://professormesser.link/1201040202>

C66. Which of the following would be the most efficient method of migrating from an HDD to an SSD?

- A.** Use cloud-based backup and restore
 - B.** Perform a drive-to-drive image
 - C.** Install a new OS on the SSD
 - D.** Use an SSD for the OS and HDD for the applications
-

The Answer: **B.** Perform a drive-to-drive image

A drive-to-drive image is a fast way to migrate from one drive type to another. Both drives are online at the same time, and third-party software can be used to quickly clone or copy all data from one drive to the other.

The incorrect answers:

A. Use cloud-based backup and restore

A cloud-based backup and restore is a viable option, but it requires extensive Internet bandwidth and is significantly slower than performing a local image copy.

C. Install a new OS on the SSD

Installing an OS (Operating System) on the SSD (Solid State Drive) would allow the SSD to boot, but none of the user documents or applications would be installed on the new SSD.

D. Use an SSD for the OS and HDD for the applications

Moving the HDD (Hard Disk Drive) alongside the SSD would provide access to the data, but the applications would perform at the same slow speeds as the original configuration.



More information:

220-1201, Objective 1.1 - Laptop Hardware

<https://professormesser.link/1201010101>

- C67.** A technician is installing a CPU and heat sink into a new system. Which of the following should be used with these two components?
- A. Redundant power supply
 - B. Header
 - C. Loopback plug
 - D. Thermal pad
-

The Answer: D. Thermal pad

A thermal pad is used to create efficient thermal conductivity between components. The connection created by the thermal pad moves heat from the CPU (Central Processing Unit) into the fins of the heat sink, and that heat is moved out of the system using the computer's cooling system.

The incorrect answers:

A. Redundant power supply

A redundant power supply is a useful component to protect against a single power supply failure, but it's not commonly associated with CPUs or heat sinks.

B. Header

A header, or pin header, is a series of connections on a motherboard used for external connections. Pin headers are not associated with CPUs or heat sinks.

C. Loopback plug

A loopback plug is used when diagnosing an interface. Information sent from the interface is looped back into the interface and compared to the original transmission. Loopback plugs are not used with CPUs or heat sinks.



More information:

220-1201, Objective 3.5 - Cooling

<https://professormesser.link/1201030510>

C68. The fans on a desktop computer are not able to move enough air to keep the system cool. A technician finds a significant amount of airflow is restricted by the internal wiring inside the computer case. Which of the following would help to resolve this issue?

- A.** Modular power supply
 - B.** Wireless networking
 - C.** Bluetooth keyboard and mouse
 - D.** Dual-channel memory
-

The Answer: **A.** Modular power supply

A modular power supply allows the technician to add or remove power cables as needed, so unused cables would not be attached or installed inside of the computer case. This keeps the number of cables inside the computer to a minimum and creates the best possible airflow through the system.

The incorrect answers:

B. Wireless networking

A wireless network certainly limits the number of cables used outside of the computer, but it won't provide any advantage to the airflow inside of a computer case.

C. Bluetooth keyboard and mouse

Bluetooth-connected keyboard and mouse configurations also limit the number of external cables, but they don't provide any assistance with airflow inside of a computer case.

D. Dual-channel memory

Dual-channel memory improves the performance of memory reads and writes, but adding dual-channel memory to a computer does not have any significant impact on cooling or airflow.



More information:

220-1201, Objective 3.6 - Computer Power

<https://professormesser.link/1201030601>

C69. A user would like to connect a set of Bluetooth speakers to their smartphone. Which of the following would be required for this connection?

- A.** Pre-shared key
 - B.** Biometrics
 - C.** PIN
 - D.** Key generation app
-

The Answer: C. PIN

A PIN (Personal Identification Number) is used during the Bluetooth pairing process to verify the connectivity between two devices.

The incorrect answers:

A. Pre-shared key

A pre-shared key is a password or phrase used between parties and is commonly used to provide authentication. Bluetooth pairing does not commonly use a pre-shared key and instead validates the devices using a PIN.

B. Biometrics

Biometrics would require authentication using a fingerprint, a face scan, or some other type of physical attribute. Bluetooth pairing does not use biometrics as an identification or authentication method.

D. Key generation app

Some multi-factor authentication options include a pseudo-random code provided from a smartphone app. Bluetooth uses a PIN instead of a key generated from an app.



More information:

220-1201, Objective 1.3 - Mobile Device Networks

<https://professormesser.link/1201010301>

C70. A user's virtualization software requires hardware support to be enabled.
Which of the following would enable this functionality?

- A.** Hypervisor configuration
 - B.** BIOS settings
 - C.** Motherboard header
 - D.** PCIe adapter
-

The Answer: **B.** BIOS settings

The BIOS (Basic Input Output System) of a computer manages the hardware configuration of the system. If the CPU supports hardware virtualization, there is usually an option to enable or disable support in the BIOS settings.

The incorrect answers:

A. Hypervisor configuration

The hypervisor configuration can be used to manage individual virtual machines and some fundamental usage settings, but it doesn't enable or disable virtualization support on a system's CPU.

C. Motherboard header

The header is a grouping of pins usually located on the edge of the motherboard. These pins are provided to connect with lights and buttons on the computer case. The header does not provide any virtualization functionality or VM hardware support.

D. PCIe adapter

A PCIe adapter can be used to add hardware directly to the motherboard. PCIe interfaces and adapters do not provide hardware support for virtualization software or hypervisors.



More information:

220-1201, Objective 3.5 - BIOS Settings

<https://professormesser.link/1201030506>

C71. A network administrator is viewing the interface statistics on a WAN router and has noticed that error rates are increasing. The administrator has replaced the WAN cables, but the errors continue. Which of the following tools should be used to best troubleshoot this issue?

- A.** Loopback plug
 - B.** Toner probe
 - C.** Crimper
 - D.** Cable tester
-

The Answer: **A.** Loopback plug

A loopback plug is useful when running diagnostics on a device interface. Data is sent out an interface, and the loopback plug redirects that data back to the same interface. By comparing the data sent and received, the technician can determine if an interface may not be operating properly.

The incorrect answers:

B. Toner probe

Tone generators and inductive probes are useful when trying to identify the ends of a single cable. Toner probes will not provide any information about errors occurring on an existing network connection.

C. Crimper

A crimper is used to attach a connector to the end of a cable. In this example, a crimper would not be useful unless one of the cables was missing a connector.

D. Cable tester

Cable testers are used to check the wire mapping on a cable run, but most cable testers don't provide much information about the quality of the cable or network connection.



More information:

220-1201, Objective 2.8 - Network Tools

<https://professormesser.link/1201020801>

C72. A user has reported stuttering and dropouts occurring on most of their incoming VoIP calls. Other web-based applications appear to be working normally. Which of the following would provide the best information regarding this issue?

- A.** Jitter measurements
 - B.** Hard drive IOPS
 - C.** SMART monitoring
 - D.** Task Manager
-

The Answer: **A.** Jitter measurements

Jitter measures the amount of inter-packet delay associated with VoIP traffic flows. If the packets arrive inconsistently or with delays between packets, the jitter values will increase to indicate congestion or delays.

The incorrect answers:

B. Hard drive IOPS

The throughput of storage drives is often measured using IOPS (Input Output Operations per Second). Although this measurement is commonly used to describe storage device throughput, IOPS is not directly associated with VoIP traffic performance.

C. SMART monitoring

S.M.A.R.T. (Self-Monitoring And Reporting Technology) is an integrated monitoring system for storage drives. SMART statistics can help determine the overall health of a storage drive, but they don't provide any direct information about VoIP traffic health.

D. Task Manager

The Windows Task Manager provides a summary of performance for all applications and services. This commonly provides a high-level overview of CPU, storage, memory, and network performance, but it does not directly provide specific performance information regarding VoIP traffic.



More information:

220-1201, Objective 5.5 - Troubleshooting Networks
<https://professormesser.link/1201050501>

C73. An administrator is trying to print some customer letters on company letterhead, but there are no messages on the printer and no pages are printing. Upon examining the queue, five print jobs are pending and waiting to print. Which of the following is the most likely cause of this issue?

- A. Tray selection in the printer driver is incorrect
 - B. The fuser is faulty
 - C. Print spooler has crashed
 - D. Printer does not support printing on letterhead
-

The Answer: C. Print spooler has crashed

The print spooler is responsible for storing print jobs, queuing them, and sending them to the printer. A print spooler crash would cause all print jobs to stop completely, regardless of which page type is specified for the output.

The incorrect answers:

A. Tray selection in the printer driver is incorrect

Many organizations will use a multi-tray printer with plain paper in one tray and letterhead in the other. The printer driver allows the user to configure and select certain printer functions, including the print tray that will be used during the printing process.

B. The fuser is faulty

A faulty fuser would allow the laser printer to print, but the toner on the output would not be permanently attached to the page and the text on the page would smear when touched.

D. Printer does not support printing on letterhead

The print driver configuration and the use of multiple printer trays is all that's needed for letterhead printing. A printer does not need to support printing to any specific type of paper.



More information:

220-1201, Objective 5.6 - Troubleshooting Printers
<https://professormesser.link/1201050601>

C74. A hardware technician has been asked to purchase a system to be used as a database server. One of the specifications for the server requires the system to detect and correct memory errors during operation. Which of the following would be the best option for this project?

- A.** Parity memory
 - B.** Single channel
 - C.** ECC
 - D.** SO-DIMM
-

The Answer: C. ECC

ECC (Error Correcting Code) memory is designed to both identify memory errors and correct them if possible. It's common to see ECC RAM (Random Access Memory) used in servers to minimize any potential downtime.

The incorrect answers:

A. Parity memory

Parity memory is similar to ECC RAM, since parity memory can identify memory errors when they occur. However, parity memory does not have a way to correct the memory errors.

B. Single channel

A motherboard supporting dual-channel or quad-channel memory will increase the memory bandwidth available. A single channel motherboard does not have this feature, and none of these channel configurations would support the detection or correction of memory errors.

D. SO-DIMM

SO-DIMM (Small Outline Dual In-line Memory Module) memory is a smaller form factor than a full size DIMM. Because of this size difference, it's common to see SO-DIMMs installed in laptops and other mobile devices. However, SO-DIMMs don't inherently provide any detection or correction of memory errors.



More information:

220-1201, Objective 3.3 - Memory Technologies

<https://professormesser.link/1201030302>

C75. A system administrator is replacing a cracked LCD display on a Windows laptop. Which of the following would be the most important component to test after this replacement?

- A.** Trackpad
 - B.** Wireless network
 - C.** USB devices
 - D.** Primary storage drive
-

The Answer: **B.** Wireless network

The antenna wires of the 802.11 wireless and Bluetooth adapters commonly wrap around the laptop display for the best possible height. When replacing the display, it's important to make sure that the wires are properly installed and have not detached from the antenna connectors on the wireless adapter or motherboard.

The incorrect answers:

A. Trackpad

The trackpad on a laptop is usually located underneath the keyboard, so it's probably the farthest away from the display than any other component. If you're going to have a problem after replacing the display, it's probably not going to be the trackpad.

C. USB devices

The externally-connected USB devices aren't usually involved when a display is replaced. Although it's certainly important to check all of your external connections after working inside the computer, the USB device connections would not be the MOST important of the available answers.

D. Primary storage drive

The primary hard drive or SSD is located inside of the computer, and it's not often involved in the replacement of an LCD display.



More information:

220-1201, Objective 1.1 - Laptop Hardware

<https://professormesser.link/1201010101>

C76. Which of the following would be MOST associated with M.2?

- A. HDD
 - B. eSATA
 - C. RAID
 - D. SSD
-

The Answer: D. SSD

SSDs (Solid State Drives) are storage devices with non-volatile memory and have no moving parts. The M.2 interface is a small form factor interface allowing for high-throughput storage in a smaller footprint than a 2.5-inch storage drive.

The incorrect answers:

A. HDD

HDDs (Hard Disk Drives) are mechanical storage devices using spinning magnetic platters to store data. HDD form factors are 3.5" wide for desktop computers and 2.5" wide for laptop computers. HDD storage is not available in a M.2 form factor.

B. eSATA

The eSATA standard provides a method for connecting SATA drives through an external interface. An M.2 interface is internal to the system and would not be found externally.

C. RAID

RAID (Redundant Array of Independent Disks) arrays are commonly created with HDD or SSD devices. M.2 storage is not commonly associated with RAID.



More information:

220-1201, Objective 3.4 - Storage Devices

<https://professormesser.link/1201030401>

C77. A user in the accounting department is reporting that her smartwatch is not synchronizing with her mobile phone. The phone is powered on and unlocked, but the phone does not show the smartwatch in a list of available devices. Which of the following would most likely solve this issue?

- A. Enable NFC on the smartwatch
 - B. Disable Wi-Fi on the phone
 - C. Enable Bluetooth on the smartwatch
 - D. Restart the phone and smartwatch
-

The Answer: C. Enable Bluetooth on the smartwatch

The PAN (Personal Area Network) used for connectivity between local devices is Bluetooth, so enabling Bluetooth on the smartwatch should allow the phone to properly communicate with the watch.

The incorrect answers:

A. Enable NFC on the smartwatch

NFC (Near-Field Communication) is designed to send small amounts of data over very short distances. NFC is not commonly used for communication between a phone and smartwatch.

B. Disable Wi-Fi on the phone

Wi-Fi and Bluetooth can operate simultaneously on a mobile phone, and the phone will communicate to both 802.11 Wi-Fi devices and Bluetooth devices. Wi-Fi does not need to be disabled to use Bluetooth connections.

D. Restart the phone and smartwatch

There's no indication the issue between the phone and watch is related to a software problem, so restarting the phone and watch would not be the most likely resolution to the communications problem.



More information:

220-1201, Objective 5.4 - Troubleshooting Mobile Devices

<https://professormesser.link/1201050401>

C78. A computer used for testing high-resolution gaming displays has a high-end video adapter and DisplayPort video connection. The computer works properly for word processing and spreadsheets, but it powers down after only a few minutes of graphics testing. Which of the following would be the most likely reason for this issue?

- A.** The storage drive is not fast enough for the testing application
 - B.** The CPU fan is faulty
 - C.** The video display is not properly connected
 - D.** One of the memory modules is faulty
-

The Answer: **B.** The CPU fan is faulty

If a system powers off after some intense CPU (Central Processing Unit) utilization, then the issue is most likely associated with heat or power. Most computers have many different temperature sensors to recognize when the system gets too hot, and they will automatically power down to prevent damaging the CPU, memory, and other hardware.

The incorrect answers:

A. The storage drive is not fast enough for the testing application
The testing application may require a fast storage drive, but a sluggish storage drive isn't going to power down if it can't keep up.

C. The video display is not properly connected
A incorrectly connected video display will cause problems for all applications, including word processing and spreadsheets. A badly connected video display will not cause a system to power down.

D. One of the memory modules is faulty
Bad memory can cause significant problems with a computer, but those problems tend to appear as application and operating system errors, system hangs, or Windows Stop messages. Faulty memory may cause a system to reboot, but it would not commonly cause it to power down completely.



More information:

220-1201, Objective 5.1 - Troubleshooting Hardware
<https://professormesser.link/1201050101>

C79. A network administrator has created a configuration for a server using the same IP address each time the server is started. Which of the following would best describe this configuration?

- A. Link-local address
 - B. IP reservation
 - C. Default gateway
 - D. APIPA
-

The Answer: B. IP reservation

An IP (Internet Protocol) reservation is usually configured on a DHCP (Dynamic Host Configuration Protocol) server to ensure that specific devices always receive the same IP address. This is commonly done to ensure that important network resources are always available using the same IP address.

The incorrect answers:

A. Link-local address

A link-local address is a special address for communicating to other devices on the same local network, but the traffic cannot be routed to other subnets. A link-local address is not a method of reserving or guaranteeing a specific IP address.

C. Default gateway

The default gateway is the router that connects the local IP subnet to other networks. The default gateway does not provide a method of reserving IP addresses.

D. APIPA

APIPA (Automatic Private IP Addressing) is a way to automatically provide a link-local address if the DHCP server is unavailable. APIPA addresses are determined when a system boots, and the APIPA addresses are allocated randomly.



More information:

220-1201, Objective 2.4 - DHCP

<https://professormesser.link/1201020402>

C80. A cloud-based application is distributed across multiple data centers and will continue to operate if any of the data centers have an outage. Which of the following characteristics would best describe this configuration?

- A.** Availability
 - B.** Shared resources
 - C.** File synchronization
 - D.** Elasticity
 - E.** Metered utilization
-

The Answer: **A.** Availability

A highly available cloud infrastructure ensures that a service will always be available regardless of what might occur behind the scenes. Redundant systems are commonly used to provide high availability.

The incorrect answers:

B. Shared resources

An external cloud contains resources which are shared across multiple accounts. The underlying infrastructure is owned by a third-party, and multiple customers are sharing these resources to build their own cloud-based services.

C. File synchronization

It's common to deploy cloud-based application instances across multiple data centers. To keep all of the information identical between sites, most organizations will have some type of file synchronization to maintain consistency between sites.

D. Rapid elasticity

The demands on an application can change based on the demand from the customers. Cloud-based services can be scaled up or down as needed using rapid elasticity.

E. Metered utilization

Many cloud services will bill you as resources as used, so it's common to find a metered system to track bandwidth, storage, or any other resources.



More information:

220-1201, Objective 4.2 - Cloud Characteristics

<https://professormesser.link/1201040202>

C81. A network technician is installing a new copper gigabit Ethernet connection, but when they plug in the network cable the status light indicators are dark. Which of the following would be the most likely status of the network connection?

- A. The DHCP server has not assigned an IP address
 - B. There is no signal on the Ethernet cable
 - C. The Ethernet link is running at 100 megabits per second instead of 1 gigabit per second
 - D. The primary DNS server is not responding
-

The Answer: B. There is no signal on the Ethernet cable

A least one light on the Ethernet adapter is commonly associated with the link status. The link light will turn on if a signal is identified on the Ethernet cable. Most Ethernet adapters will have lights to indicate the status of an Ethernet signal and the speed of the link.

The incorrect answers:

A. The DHCP server has not assigned an IP address

The assignment of an IP address is not represented by lights on the Ethernet adapter.

C. The Ethernet link is running at 100 megabits per second instead of 1 gigabit per second

If the status lights are dark, then no signal has been identified on the cable and no link speed would have been negotiated.

D. The primary DNS server is not responding

The status of a DNS (Domain Name System) server is not part of the status lights on an Ethernet adapter.



More information:

220-1201, Objective 5.5 - Troubleshooting Networks

<https://professormesser.link/1201050501>

C82. A finance manager is printing a contract designed to be printed on both sides of the page, but the printer is only providing output on one side of the paper. Which of the following options would resolve this issue?

- A.** Badging
 - B.** Tray settings
 - C.** Orientation
 - D.** Duplex
-

The Answer: **D.** Duplex

The duplex setting on a printer enables printing on both sides of the page without requiring a person to manually flip the pages over.

The incorrect answers:

A. Badging

Badging is a security feature to prevent the printing process until a badge is used to authentication at the printer. This prevents others from gaining access to printed materials, but it doesn't affect which sides of the pages which get printed.

B. Tray settings

The tray settings specify which paper will be used during the printing process, but they don't specify which sides of the page will be used.

C. Orientation

The orientation setting will change the output modes between portrait and landscape output.



More information:

220-1201, Objective 3.7 - Multifunction Devices

<https://professormesser.link/1201030701>

C83. A technician is troubleshooting a mobile phone that turns off after about an hour of normal use. Before powering off, the phone displays the message, “High temperature detected.” The phone is used inside the building at room temperature, and is not used in direct sunlight. Which of the following would be the most likely reason for this issue?

- A.** An app is using a large amount of CPU
 - B.** The Wi-Fi network is overloaded
 - C.** The battery has low voltage
 - D.** The mobile phone has liquid damage
-

The Answer: **A.** An app is using a large amount of CPU

Electronic devices generate a lot of heat, and the amount of heat from a CPU increases dramatically as it is used. Although most mobile devices will dissipate the heat using passive cooling, it's still possible to overheat the device in certain circumstances.

The incorrect answers:

B. The Wi-Fi network is overloaded

An overloaded network does not directly translate into high temperatures in a mobile device. The heat created by a network adapter is minimal, regardless of how highly utilized the network might be.

C. The battery has low voltage

Low voltage from a battery does not produce any significant source of heat. Very low voltage from a battery may cause a mobile device to shut down, but it would not show any high temperature warnings.

D. The mobile phone has liquid damage

Liquid damage can often cause part of a mobile device to stop working or cause the entire unit to fail. This failure would most likely cause a completely outage and would not usually be associated with high temperatures.



More information:

220-1201, Objective 5.4 - Troubleshooting Mobile Devices
<https://professormesser.link/1201050401>

C84. The help desk has received a ticket about a desktop computer reporting slow performance. It takes sixty seconds to load a file that previously took five seconds, and an ongoing clicking noise can be heard when accessing the data. The CPU and memory utilization statistics show minimal resource use. Which of the following would be the best next step?

- A. Upgrade the RAM
 - B. Replace the hard drive
 - C. Upgrade the BIOS
 - D. Boot to Safe Mode
 - E. Upgrade the power supply
-

The Answer: B. Replace the hard drive

Slow file access and a low amount of memory and CPU utilization indicates a problem with the hard drive. Performing a backup and replacing the drive should return the system to normal operation.

The incorrect answers:

A. Upgrade the RAM

Since memory utilization is low, we can rule out any out-of-memory conditions. Bad RAM would cause the system to crash and perform erratically, but the hard drive access would not be affected.

C. Upgrade the BIOS

A problem with the BIOS version would not cause drive access failures. Upgrading the BIOS would have no impact on file access issue in this scenario.

D. Boot to Safe Mode

It would be uncommon for an application or service to cause such a dramatic impact to the hard drive performance, so starting in Safe Mode would not provide any significant advantage.

E. Upgrade the power supply

There's no evidence that the power supply is faulty. Since the rest of the computer is working properly, it's unlikely that a new power supply would resolve this issue.



More information:

220-1201, Objective 5.2 - Troubleshooting Storage Devices

<https://professormesser.link/1201050201>

C85. A user in the marketing department was using their computer to send some email messages. The computer made an unexpected loud pop and immediately powered down. The computer would not respond to additional attempts to power it back on. Which of the following would be the most likely cause of this issue?

- A. Incorrect video refresh rate
 - B. Faulty capacitor
 - C. Incomplete software update
 - D. Bad memory module
-

The Answer: B. Faulty capacitor

Not all capacitors pop when they fail, but often a loud pop inside of a computer is related to a blown capacitor. The second symptom of the immediate powering off of the system also helps make the case that a capacitor is to blame.

The incorrect answers:

A. Incorrect video refresh rate

Setting a video adapter to a different refresh rate than the monitor will result in either a blank screen or very distorted screen images. An incorrect refresh rate will not make popping noises or power down a computer.

C. Incomplete software update

An incomplete software update isn't going to make any noises inside of your computer. An incomplete update may cause your computer to fail after a reboot, but it won't power down your system.

D. Bad memory module

Bad RAM (Random Access Memory) will usually cause applications or the operating system to show faults, including error messages and Windows Stop screens.



More information:

220-1201, Objective 5.1 - Troubleshooting Hardware

<https://professormesser.link/1201050101>

C86. A manager in the shipping department needs to connect their laptop to wireless portable speakers while in the office. Which of these should be configured on their laptop?

- A.** Tethering
 - B.** Bluetooth
 - C.** NFC
 - D.** RFID
-

The Answer: **B.** Bluetooth

Most external portable speakers use Bluetooth to receive audio signals from a mobile device. Bluetooth has the best fit for connectivity options, distance requirements, and bandwidth for sending audio data.

The incorrect answers:

A. Tethering

Tethering is used when a laptop needs to use resources that would normally be accessible from a smart phone, such as Internet access. The laptop would first connect to the mobile device using a USB cable or Bluetooth. Once connected, the laptop could access the Internet over this tethered link.

C. NFC

NFC (Near Field Communication) is a short-distance low-bandwidth network connection designed for temporary use. For example, the NFC connection in a smart phone or smart watch at a store checkout can be used as a payment method.

D. RFID

RFID (Radio Frequency Identification) is a tracking technology used in access badges, inventory management, and even animal identification. RFID technology is not used for wireless audio connections.



More information:

220-1201, Objective 1.2 - Connecting Mobile Devices

<https://professormesser.link/1201010201>

C87. A technician has two hard disk drives that need to be configured redundantly, and all information should be duplicated across physical drives. Which of the following should be configured?

- A. RAID 5
 - B. RAID 1
 - C. RAID 6
 - D. RAID 0
-

The Answer: B. RAID 1

A RAID 1 (Redundant Array of Independent Disks) array keeps an exact duplicate of data across multiple drives. If one drive fails, the other drive containing the duplicated data continues to provide access to the data.

The incorrect answers:

A. RAID 5

RAID level 5 provides redundancy through the use of parity. RAID 5 does not duplicate information across physical drives.

C. RAID 6

RAID 6 provides redundancy by striping data across multiple physical drives in a method very similar to RAID 5. Unlike RAID 5, RAID 6 uses an additional parity block to add redundancy for two potential drive failures.

D. RAID 0

RAID 0 does not provide any redundancy or duplication of data. If a single drive in RAID 0 was to fail, the data on the array would be unavailable and recovery of the data would require a recent backup.



More information:

220-1201, Objective 3.4 - RAID

<https://professormesser.link/1201030402>

C88. A system administrator has connected a desktop computer to a new LCD. After connecting the monitor, all of the desktop icons and windows appear oversized and the display appears to be fuzzy and out of focus. Which of the following would be the best way to correct this issue?

- A.** Modify the display resolution
 - B.** Use a different LCD display
 - C.** Replace the monitor cable
 - D.** Restart the desktop computer
-

The Answer: **A.** Modify the display resolution

The display resolution determines how many horizontal and vertical pixels are used when displaying information on a screen. If the resolution is set relatively low, the screen information will appear larger than a higher resolution and the output would appear blurry or fuzzy. To correct this oversized view, the system administrator will need to configure a higher resolution setting on the desktop computer.

The incorrect answers:

B. Use a different LCD display

Although it's possible a different LCD display with a different native resolution may resolve this issue of oversized text and graphics, it's a much more cumbersome solution than the few seconds it would take to configure a different display resolution on the computer.

C. Replace the monitor cable

A bad monitor cable would cause the image to dropout or appear difficult to read, and it would not cause the display images to be oversized.

D. Restart the desktop computer

Restarting the desktop computer would show the same resolution after the restart. The desktop operating system would need to be configured with a different resolution before the image on the screen would change.



More information:

220-1201, Objective 5.3 - Troubleshooting Display Issues

<https://professormesser.link/1201050301>

C89. The camera on a user's smartphone works properly when at home, but the user is not able to take pictures while at their desk at work. Which of the following would be the most likely reason for this issue?

- A. NFC
 - B. Biometrics
 - C. Bluetooth pairing
 - D. MDM
-

The Answer: D. MDM

An MDM (Mobile Device Manager) is a centralized administration tool for mobile devices. The administrator can enable or disable certain features, and some of those features can be disabled based on the device's current location.

The incorrect answers:

A. NFC

NFC (Near-Field Communication) is a networking technology used to transfer data over a very short distance. Enabling NFC would not disable any of the camera features.

B. Biometrics

Biometrics are commonly used as an authentication method to validate the physical characteristics of the user. This authentication factor does not commonly enable or disable camera features on a smartphone or mobile device.

C. Bluetooth pairing

The Bluetooth pairing process is used to wirelessly connect an external peripheral to a smartphone, tablet, or other mobile device. Pairing a Bluetooth device does not affect the use of the built-in camera on the smartphone.



More information:

220-1201, Objective 1.3 - Mobile Device Management

<https://professormesser.link/1201010302>

C90. A system administrator is installing a new LCD projector in the company conference room. Which of the following would most likely be used with this projector?

- A. Lightning
 - B. UTP
 - C. Coaxial
 - D. HDMI
-

The Answer: D. HDMI

HDMI (High-Definition Multimedia Interface) is a common interface for transmitting audio and video to televisions, displays, and projectors.

The incorrect answers:

A. Lightning

The Apple Lightning connector is used for mobile devices to connect to external peripherals. Although the lightning connector could be used to connect an Apple mobile device to an LCD projector, it's much more common to use an HDMI connector.

B. UTP

UTP (Unshielded Twisted-Pair) cabling is commonly used for Ethernet networks, and it is not a common cable type for video output.

C. Coaxial

Coaxial cables can be used for some video output formats, but a much more common video interface type would be HDMI.



More information:

220-1201, Objective 3.2 - Video Cables

<https://professormesser.link/1201030205>

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