

Question ID: A+-220-1001-MS-13-1-001

Question: New cabling is being installed in an office with a very strict fire code. Which type of cable should be used?

a. Plenum

b. UTP

c. STP

d. Fiber

Correct Answer: a. Plenum

Exam Domain/Objective: 3.0 Hardware

Exam Subobjective: 3.1 Explain basic cable types, features, and their purposes.

Remediation Chapter: Chapter 13: Networking

Remediation Heading: Twisted Pair Cable in the Corporate Environment

Explanation: Plenum cables are designed with low-smoke, flame-retardant plastics. If they burn in the event of a fire, they will give off less harmful fumes to humans. General-purpose UTP/STP/fiber cables are not manufactured with such considerations in mind.

Question ID: A+-220-1001-MS-13-1-002

Question: A technician is setting up a small office network with a cable modem and a static public IP address provided by the ISP. Which technology should be enabled to allow the office PCs access to the Internet?

a. DHCP

b. APIPA

c. NAT

d. RIP

Correct Answer: c. NAT

Exam Domain/Objective: 2.0 Networking

Exam Subobjective: 2.6 Explain common network configuration concepts.

Remediation Chapter: Chapter 13: Networking

Remediation Heading: Wireless AP/Router Basic Configuration

Explanation: NAT is used to translate private internal addresses to public external addresses.

Question ID: A+-220-1001-MS-07-1-003

Question: A technician wants to configure two drives for maximum performance. Which setup should he use?

a. RAID 0

b. RAID 1

c. RAID 4

d. RAID 5

Correct Answer: a. RAID 0

Exam Domain/Objective: 3.0 Hardware

Exam Subobjective: 3.4 Given a scenario, select, install and configure storage devices.

Remediation Chapter: Chapter 7: Storage Devices

Remediation Heading: Fault Tolerance

Explanation: RAID 0 stripes the data across two disks to achieve fast read/write times. However, RAID 0 is not fault tolerant. A disk failure causes loss of data access. RAID 1 is disk mirroring, which mirrors your data across two disks for redundancy. RAID 4 and 5 are both different types of striping with parity, which requires at least three disks and increases performance and also provides fault tolerance.

Question ID: A+-220-1001-MS-13-1-004

Question: A technician is installing a network for a small company and is selecting the network equipment. Which of the following devices will transmit data to all ports, regardless of the destination?

a. Switch

b. Router

c. Bridge

d. Hub

Correct Answer: d. Hub

Exam Domain/Objective: 2.0 Networking

Exam Subobjective: 2.2 Compare and contrast common networking hardware devices.

Remediation Chapter: Chapter 13: Networking

Remediation Heading: Ethernet Star Topology

Explanation: Hubs flood all traffic out all ports except the port on which the traffic was received. Bridges and switches pass traffic based on the destination MAC address. Routers pass traffic based on the destination IP address.

Question ID: A+-220-1001-MS-10-1-005

Question: A technician is about to begin replacing a faulty component on a laptop. What should the technician do first before doing anything else?

a. Put on an antistatic wrist strap

b. Review manufacturer documentation for disassembly procedures

c. Remove the hard disk drive

d. Remove the battery

Correct Answer: b. Review manufacturer documentation for disassembly procedures

Exam Domain/Objective: 5.0 Hardware and Network Troubleshooting

Exam Subobjective: 5.5 Given a scenario, troubleshoot common mobile device issues while adhering to the appropriate procedures.

Remediation Chapter: Chapter 10: Mobile Devices

Remediation Heading: Laptops Overview

Explanation: A technician needs to review manufacturer documentation first to become familiar with the location of the components and which ones need to be taken out before others can be accessed. While the others steps listed are important, they should take place after the documentation review.

Question ID: A+-220-1001-MS-07-1-006

Question: A technician has placed an order for a higher-capacity drive for a user but in the

meantime has decided to connect an external drive for storage. Which two of the following ports would most likely be used to connect to an external hard drive? (Choose two.)

a. eSATA

b. USB 3.0

c. IDE

d. Molex

Correct Answer: a. eSATA, b. USB 3.0

Exam Domain/Objective: 3.0 Hardware

Exam Subobjective: 3.2 Identify common connector types.

Remediation Chapter: Chapter 7: Storage Devices

Remediation Heading: Hard Drive Overview

Explanation: eSATA (external SATA) can be used to connect external devices, as can USB. IDE is an internal type of connector, which is older. Molex connectors are power connections.

Question ID: A+-220-1001-MS-13-1-007

Question: Which of the following offers the highest level of security for wireless?

a. WEP

b. WPA

c. WPA2

d. WAP

Correct Answer: c. WPA2

Exam Domain/Objective: 2.0 Networking

Exam Subobjective: 2.4 Compare and contrast wireless networking protocols.

Remediation Chapter: Chapter 13: Networking

Remediation Heading: Wireless NIC-Specific Settings

Explanation: WPA2 is the newer, more secure wireless security type available. It supports encryption of the wireless traffic with AES, which is currently the most secure encryption algorithm. WPA and WEP are less secure options. A WAP is a wireless access point, which isn't a

security type.

Question ID: A+-220-1001-MS-11-1-008

Question: A technician is building a high-performance gaming PC. Which two items should the technician focus on when selecting parts for the machine? (Choose two.)

- a. SSD
- b. 24-pin main power connector
- c. Motherboard form factor
- d. High-end cooling

Correct Answer: a. SSD, d. High-end cooling

Exam Domain/Objective: 3.0 Hardware

Exam Subobjective: 3.8 Given a scenario, select and configure appropriate components for a custom PC configuration to meet customer specifications or needs.

Remediation Chapter: Chapter 11: Computer Design, Specialized Installation, and Troubleshooting Methodology

Remediation Heading: Gaming PCs

Explanation: Key components for a gaming PC include one or more high-end video cards (maximum video RAM and specialized GPU), a high-definition sound card and speakers, high-end system cooling, and an SSD.

Question ID: A+-220-1001-MS-02-1-009

Question: Which of the following is used to deliver both video and audio from a single connector?

- a. VGA
- b. HDMI

c. DVI

d. S-Video

Correct Answer: b. HDMI

Exam Domain/Objective: 3.0 Hardware

Exam Subobjective: 3.1 Explain basic cable types, features, and their purposes.

Remediation Chapter: Chapter 2: Connectivity

Remediation Heading: HDMI

Explanation: An HDMI connector can handle both video and audio. It is commonly used on many displays and computers as well as TVs. VGA, DVI, and S-Video are all connections that can handle only video.

Question ID: A+-220-1001-MS-13-1-010

Question: Which of the following wireless standards can operate at both 2.4 GHz and 5.0 GHz?

a. 802.11a

b. 802.11b

c. 802.11g

d. 802.11n

Correct Answer: d. 802.11n

Exam Domain/Objective: 2.0 Networking

Exam Subobjective: 2.4 Compare and contrast wireless networking protocols.

Remediation Chapter: Chapter 13: Networking

Remediation Heading: Wireless Network Standards

Explanation: 802.11n can operate at both 2.4 GHz and 5.0 GHz. 802.11a uses 5.0 GHz. 802.11b and 802.11g both use 2.4 GHz.

Question ID: A+-220-1001-MS-13-1-011

Question: Which of the following is a default subnet mask for class B addresses?

- a. 255.255.255.255
- b. 255.255.255.0
- c. 255.0.0.0

d. 255.255.0.0

Correct Answer: d. 255.255.0.0

Exam Domain/Objective: 2.0 Networking

Exam Subobjective: 2.6 Explain common network configuration concepts.

Remediation Chapter: Chapter 13: Networking

Remediation Heading: Subnet Masks

Explanation: 255.255.0.0 is the default subnet mask for class B addresses. 255.0.0.0 is the default mask for class A addresses. 255.255.255.0 is the default for class C. 255.255.255.255 is referred to as a host mask, and it is used to specify just a single IP address rather than a whole network.

Question ID: A+-220-1001-MS-01-1-012

Question: Which of the following allows multiple computers to share a common display and input devices such as a keyboard and mouse?

- a. VGA
- b. HDMI
- c. KVM**
- d. Docking station

Correct Answer: c. KVM

Exam Domain/Objective: 3.0 Hardware

Exam Subobjective: 3.6 Explain the purposes and uses of various peripheral types.

Remediation Chapter: Chapter 1: Introduction to the World of IT

Remediation Heading: Common Peripherals

Explanation: KVM stands for keyboard, video, mouse and is used to allow those things to be shared by multiple computers. A keyboard, a mouse, and a monitor are all attached to the KVM switch. From the KVM switch you run multiple connections for those items to the ports on each

of the computers you want to have share the KVM attached devices. Pressing a button on the switch then allows you to toggle which computer is currently accessing the KVM devices. VGA and HDMI are different types of video display connections. A docking station allows for extra attached devices to a single laptop.

Question ID: A+-220-1001-MS-13-1-013

Question: Which of the following is a class A private IP address?

- a. 192.168.4.1
- b. 98.78.67.153
- c. 172.15.89.174

d. 10.4.2.86

Correct Answer: d. 10.4.2.86

Exam Domain/Objective: 2.0 Networking

Exam Subobjective: 2.6 Explain common network configuration concepts.

Remediation Chapter: Chapter 13: Networking

Remediation Heading: Network Addressing

Explanation: Class A private addresses are in the range 10.X.X.X, so 10.4.2.86 is a private class A address. The class B private address range is 172.16.X.X through 172.31.X.X. The class C private address range is 192.168.X.X, so 192.168.4.1 is a private class C address. 98.78.67.153 is a public address. 172.15.89.174 is also public.

Question ID: A+-220-1001-MS-13-1-014

Question: Employees are having trouble sending e-mails. A technician suspects that the firewall may be blocking the port. Which port is the technician looking to verify?

- a. 22
- b. 25**
- c. 80
- d. 53

Correct Answer: b. 25

Exam Domain/Objective: 2.0 Networking

Exam Subobjective: 2.1 Compare and contrast TCP and UDP ports, protocols, and their purposes.

Remediation Chapter: Chapter 13: Networking

Remediation Heading: TCP/IP protocols and port numbers

Explanation: Port 25 is for SMTP (Simple Mail Transfer Protocol), which is used to send e-mail. Port 22 is for SSH, which is used to secure traffic such as remote access traffic with Telnet and file transfer traffic, such as FTP traffic. Port 80 is for HTTP, which is for browsing the web. Port 53 is for DNS to resolve names to IP addresses.

Question ID: A+-220-1001-MS-10-1-015

Question: A technician is replacing faulty memory in a laptop. When installing RAM for a laptop, which type is most likely used?

- a. DDR2 SDRAM
- b. DDR3 SDRAM
- c. DDR4 SDRAM

d. SODIMM

Correct Answer: d. SODIMM

Exam Domain/Objective: 3.0 Hardware

Exam Subobjective: 3.3 Given a scenario, install RAM types.

Remediation Chapter: Chapter 10: Mobile Devices

Remediation Heading: Laptop Memory

Explanation: SODIMM, which is “small outline” memory, is memory specifically designed for laptops where there is limited space available for internal components. SDRAM memory is used for desktop computers.

Question ID: A+-220-1001-MS-13-1-016

Question: RG-59 is a designation for what type of cable?

a. Fiber

b. Coaxial

c. UTP

d. STP

Correct Answer: b. Coaxial

Exam Domain/Objective: 3.0 Hardware

Exam Subobjective: 3.2 Identify common connector types.

Remediation Chapter: Chapter 2: Connectivity

Remediation Heading: Coaxial Cable

Explanation: RG-59 is a type of coax cable. Fiber cables have designations such as OFCG or OFNG. UTP and STP are have designations such as Cat 5, Cat 6, or Cat 7.

Question ID: A+-220-1001-MS-13-1-017

Question: Which of the following ports does Remote Desktop use by default?

a. 3389

b. 1701

c. 53

d. 389

Correct Answer: a. 3389

Exam Domain/Objective: 2.0 Networking

Exam Subobjective: 2.1 Compare and contrast TCP and UDP ports, protocols, and their purposes.

Remediation Chapter: Chapter 13: Networking

Remediation Heading: The TCP/IP Model in Action

Explanation: 3389 is the port for Remote Desktop. 1701 is the port for LT2P, which is a VPN protocol. 53 is for DNS, which is used to resolve names to IP addresses. 389 is the port for LDAP, which is used for centralized administration.

Question ID: A+-220-1001-MS-10-1-018

Question: What must a technician be sure to do when installing a digitizer?

a. Connect it to the Internet

b. Calibrate it

c. Clean it

d. Enable it

Correct Answer: b. Calibrate it

Exam Domain/Objective: 1.0 Mobile Devices

Exam Subobjective: 1.2 Given a scenario, install components within the display of a laptop.

Remediation Chapter: Chapter 10: Mobile Devices

Remediation Heading: Laptop Display

Explanation: A digitizer allows for interaction with a display such as a touchscreen. Once installed, it must be calibrated for the user's touch.

Question ID: A+-220-1001-MS-09-1-019

Question: Which type of printer uses pickup rollers, transfer rollers, and a fuser?

a. Inkjet

b. Thermal

c. Laser

d. Impact

Correct Answer: c. Laser

Exam Domain/Objective: 3.0 Hardware

Exam Subobjective: 3.11 Given a scenario, install and maintain various print technologies.

Remediation Chapter: Chapter 9: Printers

Remediation Heading: Laser Printers

Explanation: A laser printer has pickup rollers to grab the paper and pull it into the printer,

transfer rollers to transfer toner to the paper, and a fuser to fuse or melt the toner into the paper. An inkjet printer “squirts” ink onto paper. An impact printer has a print head that hits against a ribbon to create images on the paper. A thermal printer uses special paper that must have heat applied to create an image.

Question ID: A+-220-1001-MS-18-1-020

Question: What type of device proactively monitors, identifies, logs, and attempts to thwart suspicious activity aimed at a device or network?

- a. Proxy server
- b. RADIUS server
- c. IPS
- d. IDS

Correct Answer: c. IPS

Exam Domain/Objective: 2.0 Networking

Exam Subobjective: 2.5 Summarize the properties and purposes of services provided by networked hosts.

Remediation Chapter: Chapter 18: Computer and Network Security

Remediation Heading: Internet Appliances

Explanation: Three common Internet appliances are a unified threat management (UTM) system, intrusion detection system (IDS), and intrusion prevention system (IPS). A UTM is an all-in-one device that provides security functions (antivirus, antimalware, antispyware, firewall, and so on). Both an IDS and IPS can be hardware or software that provides security monitoring. An IDS is a passive system that alerts when an issue has arisen. An IPS is an active system that can take action based on the data being monitored.

Question ID: A+-220-1001-MS-13-1-021

Question: How many bits comprise an IPv6 address?

- a. 96
- b. 32

c. 255

d. 128

Correct Answer: d. 128

Exam Domain/Objective: 2.0 Networking

Exam Subobjective: 2.6 Explain common network configuration concepts.

Remediation Chapter: Chapter 13: Networking

Remediation Heading: Network Addressing

Explanation: An IPv6 address is 128 bits and written out as 8 sets of 4 hexadecimal characters. An IPv4 address is 32 bits written in dotted decimal notation.

Question ID: A+-220-1001-MS-03-1-022

Question: What is the most important CPU consideration when a single-threaded task needs to be performed as quickly as possible?

a. Bus speed

b. Number of cores

c. Clock speed

d. Socket type

Correct Answer: c. Clock speed

Exam Domain/Objective: 3.0 Hardware

Exam Subobjective: 3.5 Given a scenario, install and configure motherboards, CPUs, and add-on cards.

Remediation Chapter: Chapter 3: On the Motherboard

Remediation Heading: Clocking

Explanation: Clock speed is the speed at which the CPU performs an operation. The faster the clock speed, the more quickly the CPU processes tasks. Single-threaded means it is used by only one core, so having multiple cores is irrelevant. Socket types vary by motherboard. Bus speed isn't a CPU setting; it usually refers to the speed of the front side bus, which connects the CPU to the northbridge on the motherboard.

Question ID: A+-220-1001-MS-07-1-023

Question: Which of the following requires a minimum of four hard drives?

- a. RAID 1
- b. RAID 5
- c. RAID 0

d. RAID 10

Correct Answer: d. RAID 10

Exam Domain/Objective: 3.0 Hardware

Exam Subobjective: 3.4 Given a scenario, select, install and configure storage devices.

Remediation Chapter: Chapter 7: Storage Devices

Remediation Heading: Fault Tolerance

Explanation: RAID 10 involves a stripe of mirrored drives. It requires at least four disks and stripes data across a set of mirrored disks. RAID 5 requires a minimum of three disks and does striping with parity. RAID 0 and RAID 1 require at least two disks.

Question ID: A+-220-1001-MS-06-1-024

Question: A technician is installing RAM in a motherboard with eight RAM slots, four white and four blue, numbered 0 through 7. What should the technician do first?

a . Consult the motherboard documentation

- b. Install the RAM in slots 0 through 3
- c. Install the RAM in the four blue slots
- d. Install the RAM in the four white slots

Correct Answer: a. Consult the motherboard documentation

Exam Domain/Objective: 3.0 Hardware

Exam Subobjective: 3.3 Given a scenario, install RAM types.

Remediation Chapter: Chapter 6: Memory

Remediation Heading: Planning for Memory: How Many of Each Memory Type?

Explanation: Consulting the motherboard documentation is going to clear up the questions about whether the RAM needs to be installed in all four slots of a single color, whether there is a requirement to fill all four slots, which color to use, and so on. The technician can't just start plugging things in without knowing the intention of those colors and numbered slots. Always consult the documentation first.

Question ID: A+-220-1001-MS-07-1-025

Question: A user reports that her computer is very slow while accessing files. Which of the following could be done to speed up file access?

a. Run Windows Update

b. Defragment the hard drive

c. Switch the BIOS to UEFI

d. Disable virtualization in the BIOS

Correct Answer: b. Defragment the hard drive

Exam Domain/Objective: 5.0 Hardware and Network Troubleshooting

Exam Subobjective: 5.3 Given a scenario, troubleshoot hard drives and RAID arrays.

Remediation Chapter: Chapter 7: Storage Devices

Remediation Heading: Troubleshooting Storage Devices Overview

Explanation: Pieces of files don't always get written near each other on a hard drive. Over time the files get more and more fragmented, which causes slower access times. The defragmenter utility works to fix that by finding those fragmented files and writing them nearer to each other on the disk. Running Windows Update won't fix a file access problem. Virtualization in the BIOS allows the running of virtual machines on the computer. UEFI is a newer firmware interface designed to replace BIOS.

Question ID: A+-220-1001-MS-13-1-026

Question: A user reports that she is unable to access a web page by name but is able to access the page by IP address. Which of the following is most likely the cause of the problem?

a. HTTP

b. FTP

c. DNS

d. RDP

Correct Answer: c. DNS

Exam Domain/Objective: 5.0 Hardware and Network Troubleshooting

Exam Subobjective: 5.7 Given a scenario, troubleshoot common wired and wireless network problems.

Remediation Chapter: Chapter 13: Networking

Remediation Heading: DNS

Explanation: DNS is used to translate names to IP addresses. If a device is accessible by IP address, then the problem is not a network issue and must be a name resolution issue. HTTP is for browsing the web. FTP is for file transfer. RDP is for remote access.

Question ID: A+-220-1001-MS-09-1-027

Question: Which of the following prints color documents the most quickly?

a. 3D printer

b. Thermal printer

c. Impact printer

d. Laser printer

Correct Answer: d. Laser printer

Exam Domain/Objective: 3.0 Hardware

Exam Subobjective: 3.11 Given a scenario, install and maintain various print technologies.

Remediation Chapter: Chapter 9: Printers

Remediation Heading: Laser Printers

Explanation: Laser printing and inkjet printing are the fastest types of printing available. 3D printing is very slow. Impact printing is slow as well. Thermal printing would be faster than impact and 3D but doesn't reach the speeds of laser printing.

Question ID: A+-220-1001-MS-07-1-028

Question: Which of the following must be the same when replacing a hard drive in a computer?

a. Disk capacity

b. Interface connection type

c. Disk speed

d. Disk brand

Correct Answer: b. Interface connection type

Exam Domain/Objective: 3.0 Hardware

Exam Subobjective: 3.4 Given a scenario, select, install and configure storage devices.

Remediation Chapter: Chapter 7: Storage Devices

Remediation Heading: Hard Drive Interfaces Overview

Explanation: The replacement disk drive must have the same interface connection type, or you won't be able to attach it to the computer. Disk capacity and disk speed do not have to be the same. You can add a better hard drive to increase the speed and capacity to upgrade a machine. The OS and the drives ensure that various different brands don't matter.

Question ID: A+-220-1001-MS-12-1-029

Question: A user is trying to run Hyper-V on his computer, and it's not working. Which of the following should you verify?

a. CPU speed

b. RAM usage

c. Virtualization support

d. Number of CPU cores

Correct Answer: c. Virtualization support

Exam Domain/Objective: 4.0 Virtualization and Cloud Computing

Exam Subobjective: 4.2 Given a scenario, set up and configure client-side virtualization.

Remediation Chapter: Chapter 12: Internet Connectivity, Virtualization, and Cloud Technologies

Remediation Heading: Virtualization Resource and Emulator Requirements

Explanation: The CPU on the system must support virtualization, and it must be enabled in the BIOS/UEFI in order to run virtual machines. Hyper-V is Microsoft virtualization software. CPU speed, cores, and RAM are all important factors in being able to handle the running of the virtual machines optimally, but without virtualization support enabled, all those are irrelevant factors.

Question ID: A+-220-1001-MS-13-1-030

Question: A Windows tablet has quit responding to touch. What is one of the first things the technician should do?

- a. See if Device Manager recognizes the touchscreen
- b. Use Task Manager to verify that the touch process is running
- c. Restart the tablet
- d. Check the digitizer settings

Correct Answer: d. Check the digitizer settings

Exam Domain/Objective: 5.0 Hardware and Network Troubleshooting

Exam Subobjective: 5.5 Given a scenario, troubleshoot common mobile device issues while adhering to the appropriate procedures.

Remediation Chapter: Chapter 10: Mobile Devices

Remediation Heading: Touchscreens

Explanation: When a touchscreen doesn't respond, you may have to configure a wireless mouse or keyboard to interact with the tablet or attach one via USB if a USB port is available. Then, in Windows 7, use the Tablet PC Settings Control Panel utility to select the Calibrate Your Pen or Touch Input link. In Windows 8, use the PC and Devices Settings link to access the Calibrate the Screen for Pen or Touch Input link. In Windows 10, just search for the word "calibrate" and select the Calibrate the Screen for Pen or Touch Input link.

Question ID: A+-220-1001-MS-12-1-031

Question: Users report that their video conferences experience delays and buffers during busy network times. Which of the following can you do to prevent these problems from continuing?

- a. Turn off network discovery

- b. Add additional switches to the network
- c. Configure a DMZ

d. Enable QoS

Correct Answer: d. Enable QoS

Exam Domain/Objective: 5.0 Hardware and Network Troubleshooting

Exam Subobjective: 5.7 Given a scenario, troubleshoot common wired and wireless network problems.

Remediation Chapter: Chapter 12: Internet Connectivity, Virtualization, and Cloud Technologies

Remediation Heading: VoIP

Explanation: QoS (quality of service) is used to ensure that certain types of traffic are processed by the network devices before other types of traffic. Traffic that is delay sensitive, such as voice and video traffic, should be processed before data traffic. A DMZ is an isolated area of the network that would allow public access to items such as a web server or an e-mail server. Adding additional switches to the network won't solve a delay problem; if anything, it might increase the delay because it means more devices need to process the traffic. Network discovery is a feature that allows devices to be automatically discovered by other devices.

Question ID: A+-220-1001-MS-09-1-032

Question: What needs to be configured so users can print on both sides of the paper?

- a. Orientation
- b. Paper tray

c. Duplex

- d. Collation

Correct Answer: c. Duplex

Exam Domain/Objective: 3.0 Hardware

Exam Subobjective: 3.10 Given a scenario, configure SOHO multifunction devices/printers and settings.

Remediation Chapter: Chapter 9: Printers

Remediation Heading: Paper

Explanation: Duplexing allows a printer to print on one side of the paper, turn it over, and then

print on the other side. Orientations are portrait or landscape. A paper tray holds the paper. Collation means arranging the printed papers in a certain sequence.

Question ID: A+-220-1001-MS-18-1-033

Question: Which network device would most likely be used to implement network security policies?

- a. Cloud-based controller
- b. IDS
- c. UPS

d. Firewall

Correct Answer: d. Firewall

Exam Domain/Objective: 2.0 Networking

Exam Subobjective: 2.2 Compare and contrast common networking hardware devices.

Remediation Chapter: Chapter 18: Computer and Network Security

Remediation Heading: Logical Security

Explanation: A firewall operates on access control lists (ACLs), which are security rules that permit or deny specific types of traffic based on a company's security policies.

Question ID: A+-220-1001-MS-05-1-034

Question: A company that handles scorekeeping and statistics for various sports in locations around the world ships its equipment to a remote location. Before the games begin in that location, a technical team configures both a wired network and a wireless network and attaches devices such as desktops, laptops, and tablets used by the team. The hardware needed for the end devices is typical for any business computing needs. What other function should the technical salesperson be concerned about when providing replacement devices for this team?

a. Input voltage

b. SSD

c. RAM

d. Number of CPUs

Correct Answer: a. Input voltage

Exam Domain/Objective: 3.0 Hardware

Exam Subobjective: 3.7 Summarize power supply types and features.

Remediation Chapter: Chapter 5: Disassembly and Power

Remediation Heading: Power Supply Overview

Explanation: This company needs devices that support international travel, and input power is a key component for all of its devices. Having all devices support both 115 V and 220 V input voltages is important.

Question ID: A+-220-1001-MS-12-1-035

Question: A company uses cloud-base file storage for disaster recovery. Which resource is most important to this company when synchronizing apps?

a. Internet connectivity type

b. Amount of free storage space

c. Disk I/O speed

d. I/O bandwidth

Correct Answer: d. I/O bandwidth

Exam Domain/Objective: 4.0 Virtualization and Cloud Computing

Exam Subobjective: 4.1 Compare and contrast cloud computing concepts.

Remediation Chapter: Chapter 12: Internet Connectivity, Virtualization, and Cloud Technologies

Remediation Heading: Cloud Technologies

Explanation: Input/output (I/O) bandwidth is the amount of data that can be received and sent by a particular device. When saving data to the cloud, and especially when synchronizing files, it is important to have enough bandwidth for the company device sending the data, the Internet connection, and the cloud device receiving the data.

Question ID: A+-220-1001-MS-04-1-036

Question: Which of the following is used to encrypt a hard drive in Windows with BitLocker?

- a. RSA
- b. TPM**
- c. SSH
- d. UEFI

Correct Answer: b. TPM

Exam Domain/Objective: 3.0 Hardware

Exam Subobjective: 3.5 Given a scenario, install and configure motherboards, CPUs, and add-on cards.

Remediation Chapter: Chapter 4: Introduction to Configuration

Remediation Heading: BIOS/UEFI Configuration Settings

Explanation: Trusted Platform Module (TPM) is a hardware chip on the motherboard that is used to aid in encryption and authentication. In order to access a hard drive in Windows that is encrypted with BitLocker, that drive must be in the computer with the TPM chip that was used to encrypt it. RSA is an asymmetric encryption algorithm used to exchange keys and sign data. SSH is an encryption protocol used to secure traffic. UEFI is a replacement for BIOS.

Question ID: A+-220-1001-MS-04-1-037

Question: A user connects her laptop to an external monitor through an HDMI connection and can't view her entire display. What settings should she adjust?

- a. Refresh rate
- b. Brightness
- c. Resolution**
- d. Keystone

Correct Answer: c. Resolution

Exam Domain/Objective: 5.0 Hardware and Network Troubleshooting

Exam Subobjective: 5.4 Given a scenario, troubleshoot video, projector, and display issues.

Remediation Chapter: Chapter 4: Introduction to Configuration

Remediation Heading: Troubleshooting Video

Explanation: If the resolution is not adjusted so it matches that of the external display, you won't be able to see what the computer is trying to display. The size of the laptop display and the external monitor are not going to be the same. Refresh rate should usually be left at its default unless the visually displayed information or images are changing noticeably slowly. Brightness shouldn't keep you from seeing pieces of images. Keystone is an adjustable setting on projectors that you use when projecting the display at an angle and need to compensate.

Question ID: A+-220-1001-MS-07-1-038

Question: A customer brings in a computer to have the hard drive upgraded enough so family finance documents, videos, and photos can be stored in one location with room for more. Which solution would be best to recommend to the customer?

- a. 1TB NAS
- b. 512 GB SSD
- c. 256 GB SSD

d. 3 TB HDD

Correct Answer: d. 3 TB HDD

Exam Domain/Objective: 3.0 Hardware

Exam Subobjective: 3.4 Given a scenario, select, install and configure storage devices.

Remediation Chapter: Chapter 7: Storage Devices

Remediation Heading: Hard Drive Overview, Solid State Drive (SSD) Overview

Explanation: Of the capacities given, the 3 TB HDD option is the one best suited for growth. SSDs are best used for the operating system and applications that need fast response, such as a gaming PC or graphic design workstation.

Question ID: A+-220-1001-MS-13-1-039

Question: A small company is installing UTP cabling and would like to have the cheapest but best option possible to support at least 700 Mb/s throughput. Which type of UTP cable would be best for this company?

a. Cat 3

b. Cat 5

c. Cat 5e

d. Cat 6a

Correct Answer: c. Cat 5e

Exam Domain/Objective: 3.0 Hardware

Exam Subobjective: 3.1 Explain basic cable types, features, and their purposes.

Remediation Chapter: Chapter 13: Networking

Remediation Heading: Twisted Pair Cable Overview

Explanation: UTP cables come in different specifications called categories. The only viable choices here are Cat 5, 5e, and 6a. Cat 5 is no longer recognized as a standard and was replaced with Cat 5e. Cat5e is cheaper to install than Cat 6a.

Question ID: A+-220-1001-MS-12-1-040

Question: Which of the following network connections has the most latency?

a. Fiber

b. DSL

c. Cable

d. Satellite

Correct Answer: d. Satellite

Exam Domain/Objective: 2.0 Networking

Exam Subobjective: 2.7 Compare and contrast Internet connection types, network types, and their features.

Remediation Chapter: Chapter 12: Internet Connectivity, Virtualization, and Cloud Technologies

Remediation Heading: Satellite Modems

Explanation: Satellite, which is wireless, experiences more latency than do the wired connections listed. Satellite connections can also be affected by clouds and other weather conditions.

Question ID: A+-220-1001-MS-13-1-041

Question: Which of the following tools would be used to verify that a UTP cable is working properly?

- a. Loopback plug
- b. Crimper
- c. Tone generator
- d. Cable tester

Correct Answer: d. Cable tester

Exam Domain/Objective: 2.0 Networking

Exam Subobjective: 2.8 Given a scenario, use appropriate networking tools.

Remediation Chapter: Chapter 13: Networking

Remediation Heading: Terminating Twisted Pair Cable

Explanation: A cable tester tests to make sure the electrical signals are passing down the proper wires and are being received on the right pins on the other end. A loopback plug is used to test a port. A cable crimper is used to attach a connector on the end of the cable. A tone generator/toner probe combination identifies cables when they are not labeled or are labeled incorrectly.

Question ID: A+-220-1001-MS-13-1-042

Question: Which of the following wireless standards provides the slowest transfer rate while operating at 2.4 GHz?

- a. 802.11a
- b. 802.11b
- c. 802.11g
- d. 802.11n

Correct Answer: b. 802.11b

Exam Domain/Objective: 2.0 Networking

Exam Subobjective: 2.4 Compare and contrast wireless networking protocols.

Remediation Chapter: Chapter 13: Networking

Remediation Heading: Wireless Network Standards

Explanation: 802.11b works at 2.4 GHz and has a transfer rate of 11 Mbps. 802.11a works at 5.0 GHz. 802.11g works at 2.4 GHz but has a maximum transfer rate of 54 Mbps. 802.11n can use both frequencies and can reach much faster speeds (up to 600 Mbps). 802.11ac is another wireless standard with speeds upward of 1.7 Gbps.

Question ID: A+-220-1001-MS-13-1-043

Question: Which of the following ports is used to secure a website while browsing the Internet?

a. 80

b. 22

c. 143

d. 443

Correct Answer: d. 443

Exam Domain/Objective: 2.0 Networking

Exam Subobjective: 2.1 Compare and Contrast TCP and UDP ports, protocols, and their purposes.

Remediation Chapter: Chapter 13: Networking

Remediation Heading: The TCP/IP Model in Action

Explanation: To secure web traffic, use HTTPS, which works at port 443. Port 80 is for HTTP, which is clear text (unsecured) web traffic. Port 22 is for SSH, which is used to secure traffic such as remote access traffic with Telnet and file transfer traffic, such as FTP traffic. Port 143 is for IMAP, which is an e-mail protocol.

Question ID: A+-220-1001-MS-10-1-044

Question: A user wants to transfer data between two smartphones without the use of other networking devices. Which of the following protocols would best accomplish this?

a. NFC

b. USB

c. IR

d. 802.11ac

Correct Answer: a. NFC

Exam Domain/Objective: 1.0 Mobile Devices

Exam Subobjective: 1.5 Given a scenario, connect and configure accessories and ports of other mobile devices.

Remediation Chapter: Chapter 10: Mobile Devices

Remediation Heading: Near Field Communication (NFC)

Explanation: NFC (near field communication) allow for devices to connect to each other to share files when they come within a couple inches of each other without the need for other technologies. USB requires some other device to be used as two phones can't connect to each other via a single USB cable. IR is infrared, which is an older technology and not supported by smartphones today. 802.11ac requires the use of a wireless access point, which would be an additional networking device.

Question ID: A+-220-1001-MS-10-1-045

Question: A user needs a cable to charge and transfer data from her mobile Apple device. What type of cable does she need?

a. Mini-USB

b. Lightning

c. Micro-USB

d. FireWire

Correct Answer: b. Lightning

Exam Domain/Objective: 1.0 Mobile Devices

Exam Subobjective: 1.5 Given a scenario, connect and configure accessories and ports of other mobile devices.

Remediation Chapter: Chapter 10: Mobile Devices

Remediation Heading: Mobile USB and Lightning Ports

Explanation: A Lightning connector is a proprietary connector developed by Apple for its mobile devices as well as a few other external devices. Other vendors use mini-USB or micro-USB for their mobile devices, but for an Apple device, the proprietary Lightning connector is used.

Question ID: A+-220-1001-MS-10-1-046

Question: A user wants to be able to easily connect his laptop to an external monitor, keyboard, mouse, printer, and hard drive whenever sitting at his desk in the office. What should you provide for the user?

a. Docking station

b. KVM

c. USB 3.0 hub

d. HDMI splitter

Correct Answer: a. Docking station

Exam Domain/Objective: 1.0 Mobile Devices

Exam Subobjective: 1.3 Given a scenario, use appropriate laptop features.

Remediation Chapter: Chapter 10: Mobile Devices

Remediation Heading: External Laptop Devices

Explanation: A docking station is something attaches to a laptop via a special port and gives a laptop access to all the external devices connected to the docking station. A KVM switch allows for multiple computers to share the same keyboard, monitor, and mouse. A USB hub isn't exactly an "easy" solution, and it also may not support the display. An HDMI splitter is also not an easy solution and doesn't allow for connections of mice, keyboard, and so on.

Question ID: A+-220-1001-MS-13-1-047

Question: A technician knows that a network is experiencing packet loss and needs to verify where along the network path this is occurring. Which of the following utilities should the technician use?

a. netstat

b. ping

c. tracert

d. nslookup

Correct Answer: c. tracert

Exam Domain/Objective: 5.0 Hardware and Network Troubleshooting

Exam Subobjective: 5.7 Given a scenario, troubleshoot common wired and wireless network problems.

Remediation Chapter: Chapter 13: Networking

Remediation Heading: The `tracert` Command

Explanation: `tracert` is a Windows utility that is used to trace the path to a destination. Each router along the path responds with a message so you can see the path the packets take, and if there is a failure along the way, you can see where the traffic is stopping. Linux and macOS use the `traceroute` diagnostic tool, which is similar to the Windows `tracert` utility. `netstat` can be used to see open network connections among with other network statistics. `ping` is use to test connectivity to a device without returning path information. `nslookup` is used to see name resolution (DNS) information.

Question ID: A+-220-1001-MS-05-1-048

Question: Which of the following could be used to test power being supplied to a motherboard?

a. Loopback plug

b. Multimeter

c. Cable certifier

d. Tone generator

Correct Answer: b. Multimeter

Exam Domain/Objective: 2.0 Networking

Exam Subobjective: 2.8 Given a scenario, use appropriate networking tools.

Remediation Chapter: Chapter 5: Disassembly and Power

Remediation Heading: Tools

Explanation: A multimeter is used to detect and measure electrical currents. It can give readings on voltages, wattages, and amps, among other electrical measurements. A cable certifier is a more advanced cable tester that is used to test network cables. A tone generator is used for locating a wire. A loopback plug tests a physical port on a PC.

Question ID: A+-220-1001-MS-13-1-049

Question: A user is having problems connecting to the network. You run `ipconfig` at the command prompt to check the user's IP address and see that it is 169.254.86.96. Which of the following is a reason the user can't connect to the network?

- a. The PC is set with a static IP address instead of DHCP
- b. The user's computer needs a DNS server address
- c. The user's computer failed to obtain an IP address from the DHCP server
- d. The user's computer appears to be operating as normal

Correct Answer: c. The user's computer failed to obtain an IP address from the DHCP server

Exam Domain/Objective: 5.0 Hardware and Network Troubleshooting

Exam Subobjective: 5.7 Given a scenario, troubleshoot common wired and wireless network problems.

Remediation Chapter: Chapter 13: Networking

Remediation Heading: APIPA

Explanation: 169.254.X.X is an APIPA (automatic private IP addressing) address. By default, a Windows computer receive an APIPA address if it is set to obtain an IP address automatically through DHCP and it fails to do so.

Question ID: A+-220-1001-MS-13-1-050

Question: A technician is setting up a thin client workstation in a corporate environment. Which three tasks will be part of the installation? (Choose three.)

- a. Install the operating system
- b. Install desktop applications
- c. Connect the computer to the VM
- d. Configure the RAID array
- e. Connect the computer to the wireless network
- f. Connect the computer to the wired network

Correct Answer: a. Install the operating system, c. Connect the computer to the VM, and f. Connect the computer to the wired network.

Exam Domain/Objective: 3.0 Hardware

Exam Subobjective: 3.8 Given a scenario, select and configure appropriate components for a custom PC configuration to meet customer specifications or needs.

Remediation Chapter: Chapter 13 Networking

Remediation Heading: Thin Client Installation

Explanation: A thin client is a computer that has minimum hardware and ports and runs its software from a server or from a virtual machine (VM). To install a thin client, the image management system frequently requires that you know the MAC address and possibly the network number or IP address in order to get the image process started; you also need to apply settings related to what type of monitor is installed, the username, and the domain name.

Question ID: A+-220-1001-MS-04-1-051

Question: A computer contains several internal hard drives, a DVD-ROM, and an external hard drive. After you upgrade the BIOS, the computer refuses to boot. The error message “operating system not found” appears. Which of the following should you check first?

a. Internal hard drive connections

b. The boot sequence in the BIOS

c. The power supply voltage switch

d. The motherboard battery

Correct Answer: b. The boot sequence in the BIOS

Exam Domain/Objective: 3.0 Hardware

Exam Subobjective: 3.5 Given a scenario, install and configure motherboards, CPUs, and add-on cards.

Remediation Chapter: Chapter 4: Introduction to Configuration

Remediation Heading: BIOS/UEFI Configuration Settings

Explanation: If the problem arose after upgrading the BIOS, chances are it's a BIOS/UEFI problem. Upgrading the BIOS may have reset the boot sequence setting, and now the computer is trying to boot to a drive that doesn't contain an operating system. Check the boot sequence first.

Question ID: A+-220-1001-MS-04-1-052

Question: A user reports that his PC's display isn't showing the colors properly. When you wiggle the VGA cable connected to the computer's VGA port, the display goes all blue, then all red, then all yellow. Which of the following might be the problem?

- a. The video drivers need to be updated
- b. The computer is configured to display output only to HDMI
- c. Some of the pins on the VGA connector are broken
- d. The monitor needs to have its contrast adjusted

Correct Answer: c. Some of the pins on the VGA connector are broken

Exam Domain/Objective: 5.0 Hardware and Network Troubleshooting

Exam Subobjective: 5.4 Given a scenario, troubleshoot video, projector, and display issues.

Remediation Chapter: Chapter 4: Connectivity

Remediation Heading: Troubleshooting Video

Explanation: The pins on the connectors are rather delicate, and if one of the breaks off or bends inward, it will cause color and image problems on the display. Video drivers wouldn't cause colors to change when moving the cable, so it sounds like a cable problem. Doing a contrast adjustment won't solve the problem as it seems the problem is more physical. If you configure a computer to only output to HDMI, you shouldn't see anything at all on the VGA display.

Question ID: A+-220-1001-MS-12-1-053

Question: A company decides it no longer wants to host its own e-mail server and decides to purchase a business agreement with an online company to do its e-mail hosting. Which of the following is being described?

- a. Rapid elasticity
- b. IaaS
- c. SaaS
- d. Private cloud

Correct Answer: c. SaaS

Exam Domain/Objective: 4.0 Virtualization and Cloud Computing

Exam Subobjective: 4.1 Compare and contrast cloud concepts.

Remediation Chapter: Chapter 12: Internet Connectivity, Virtualization, and Cloud Technologies

Remediation Heading: Cloud Computing

Explanation: SaaS is Software as a Service, which describes a single service or function that is being hosted by a third party offsite. Webmail is an example of a popular SaaS solution. IaaS (Infrastructure as a Service) is a large collection of many services rather than just one; it is a solution that is used to manage a large environment. Microsoft's Azure (which is essentially an Active Directory management solution stored in the cloud) is an example of IaaS. Rapid elasticity describes the ability to easily scale or expand a cloud service solution as needed. A private cloud is a cloud service that is available to only one company, whereas a public cloud is available to multiple companies.

Question ID: A+-220-1001-MS-09-1-054

Question: Which of the following printing technologies would be least useful for archiving documents?

- a. Laser
- b. Inkjet
- c. Impact
- d. Thermal

Correct Answer: d. Thermal

Exam Domain/Objective: 3.0 Hardware

Exam Subobjective: 3.11 Given a scenario, install and maintain various print technologies.

Remediation Chapter: Chapter 9: Printers

Remediation Heading: Thermal Printers

Explanation: Thermal printers require special paper that changes color with temperature. This paper has been known to deteriorate over time, which makes it a poor choice for documents you want to save (archive) for a long time. Laser, inkjet, and impact printers all print to paper that lasts much longer.

Question ID: A+-220-1001-MS-08-1-055

Question: A user has 10 GB of data that she wishes to write to external optical media. Which of the following would be the best choice?

- a. eSATA

b. Blu-ray

c. CD-R

d. DVD-R

Correct Answer: b. Blu-ray

Exam Domain/Objective: 3.0 Hardware

Exam Subobjective: 3.4 Given a scenario, select, install and configure storage devices.

Remediation Chapter: Chapter 8: Multimedia Devices

Remediation Heading: Optical Disc Drive Overview

Explanation: A single-layer Blu-ray disc can hold up to 25 GB. A DVD holds 4.7 GB, a CD holds 700 MB, and a floppy holds 1.44 MB. The only choice that can fit all 10 GB of data is Blu-ray.

Question ID: A+-220-1001-MS-13-1-056

Question: Which of the following server roles would be responsible for managing the assignment of IP addresses?

a. Web server

b. File server

c. DNS server

d. DHCP server

Correct Answer: d. DHCP server

Exam Domain/Objective: 2.0 Networking

Exam Subobjective: 2.5 Summarize the properties and purpose of services provided by networked hosts.

Remediation Chapter: Chapter 13: Networking

Remediation Heading: Network Servers

Explanation: DHCP is used to assign IP addresses to devices automatically. Instead of doing manual (static) addressing of devices, where an administrator would have to manually allocate, assign, and document address assignments, a DHCP server can handle the addressing of devices automatically. A web server is a public-facing system containing information for public access and/or sales. A file server hosts files for access. A DNS server does hostname-to-IP address resolution.

Question ID: A+-220-1001-MS-03-1-057

Question: Which of the following socket types is used for Intel processors? (Choose two.)

a. LGA

b. FM1

c. AM3

d. 1150

Correct Answer: a. LGA, d. 1150

Exam Domain/Objective: 3.0 Hardware

Exam Subobjective: 3.5 Given a scenario, install and configure motherboards, CPUs, and add-on cards.

components, their purpose and properties

Remediation Chapter: Chapter 3: On the Motherboard

Remediation Heading: CPU Sockets

Explanation: Intel processor sockets are usually identified by numbers indicating the number of pins on the CPU, such as LGA 1150, 1151, 1155, 1156, 2011, and 2066. LGA, which stands for Land Grid Array, is also specific for Intel. AMD processors use sockets such as AM3, AM3+, AM4, TR4, FM1, and FM2.

Question ID: A+-220-1001-MS-04-1-058

Question: A user left his monitor on while away on vacation for a week without a screensaver. Now there is a faint “ghost” image and discoloration on the screen. Which of the following has occurred?

a. Backlight failure

b. Dead screen pixels

c. Burn in

d. Inverter failure

Correct Answer: c. Burn in

Exam Domain/Objective: 5.0 Hardware and Network Troubleshooting

Exam Subobjective: 5.4 Given a scenario, troubleshoot video, projector, and display issues.

Remediation Chapter: Chapter 4: Introduction to Configuration

Remediation Heading: Troubleshooting Video

Explanation: Screen burn in is a permanent discoloration of the display that results from having the same image on the screen too long. Screen savers should be used, or a display should be set to turn off after a period of inactivity to prevent burn in. If the backlight or the inverter failed, you would not have discoloration but would just see a very dim or completely dark screen. You can usually tell that you have bad pixels because an individual pixel is stuck.

Question ID: A+-220-1001-MS-03-1-059

Question: Thermal paste is used between which of the following components?

a. Heat sink and CPU

b. Heat sink and fan

c. CPU and motherboard

d. Motherboard and RAM

Correct Answer: a. Heat sink and CPU

Exam Domain/Objective: 3.0 Hardware

Exam Subobjective: 3.5 Given a scenario, install and configure motherboards, CPUs, and add-on cards.

Remediation Chapter: Chapter 3: On the Motherboard

Remediation Heading: Processor Cooling

Explanation: Thermal paste is used to aid in the transfer of heat from the CPU to the heat sink. You apply a small amount of it when installing the heat sink. Too much thermal paste actually has adverse effects and can end up insulating the CPU and not allowing the heat to transfer properly; the CPU may overheat, and damage may occur.

Question ID: A+-220-1001-MS-04-1-060

Question: A technician responds to a service request for a display monitor that isn't working. The message "no video signal" appears on the display. What should the technician do first?

a. Update the display driver

b. Replace the inverter

c. Check the display cable connection

d. Increase the display brightness

Correct Answer: c. Check the display cable connection

Exam Domain/Objective: 5.0 Hardware and Network Troubleshooting

Exam Subobjective: 5.4. Given a scenario, troubleshoot video, projector, and display issues.

Remediation Chapter: Chapter 4: Introduction to Configuration

Remediation Heading: Troubleshooting Video

Explanation: Since the display cable is the input cable for the display, and the display is having a signal issue, it would be a good idea to check the physical cable connection. Increasing the display brightness is only going to make the message about a signal issue brighter. Updating the driver isn't going to help with a physical problem. If the inverter had failed, there would be no message at all, or there would be just a very dim display.

Question ID: A+-220-1001-MS-10-1-061

Question: Which of the following disables a mobile device's radio to prevent wireless communication?

a. Tethering

b. Hotspot

c. Airplane Mode

d. Pairing

Correct Answer: c. Airplane Mode

Exam Domain/Objective: 1.0 Mobile Devices

Exam Subobjective: 1.3 Given a scenario, use appropriate laptop features.

Remediation Chapter: Chapter 10: Mobile Devices

Remediation Heading: Airplane Mode

Explanation: Airplane Mode turns off all wireless communications. WiFi can then be turned back on while Airplane Mode stays in effect, keeping the cellular service disabled. Tethering and hotspots allow other devices to utilize the data connection of a phone for Internet access. Pairing refers to connecting a Bluetooth type device for communication with the mobile device.

Question ID: A+-220-1001-MS-10-1-062

Question: A user is trying to use her company-issued smartphone as a mobile pay device, and it isn't working. Which of the following components is missing from the smartphone?

a. RFID

b. NFC chip

c. IrDA

d. Bluetooth

Correct Answer: b. NFC chip

Exam Domain/Objective: 3.0 Hardware

Exam Subobjective: 3.6 Explain the purposes and uses of various peripheral types.

Remediation Chapter: Chapter 10: Mobile Devices

Remediation Heading: Near Field Communication (NFC)

Explanation: An NFC chip allows for communication between devices when they are within 2 inches of each other. Mobile pay services utilize this chip for communications between the phone and the pay device. Radio frequency identification (RFID) uses electromagnetic fields to automatically identify and track tags attached to objects, but it isn't used for two-way communication. IrDA is infrared, which uses line-of-sight communication up to a certain distance. Bluetooth is a wireless technology used for communication, but it isn't used for mobile pay as its transmission range is too great.

Question ID: A+-220-1001-MS-10-1-063

Question: Which of the following are types of data that can be synchronized between a mobile device and a computer? (Select all that apply.)

a. Contacts

b. Pictures

c. E-mail

d. Calendar

e. Memos

f. Notes

g. Phone numbers

Correct Answer: a. Contacts, b. Pictures, c. E-mail, d. Calendar

Exam Domain/Objective: 1.0 Mobile Devices

Exam Subobjective: 1.6 Given a scenario, configure basic mobile device network connectivity and application support.

Remediation Chapter: Chapter 10: Mobile Devices

Remediation Heading: Mobile Device Synchronization and Backup

Explanation: These types of data can be synchronized: contacts, applications, e-mail, pictures, music, videos, calendar, bookmarks, documents, location data, social media data, e-books, and passwords.

Question ID: A+-220-1001-MS-09-1-064

Question: Pickup rollers and separator pads are used for what purpose?

- a. To transfer toner to paper
- b. To pick up toner from its reservoir
- c. To ensure that only one page enters the printing process
- d. To fuse toner into the paper

Correct Answer: c. To ensure that only one page enters the printing process

Exam Domain/Objective: 3.0 Hardware

Exam Subobjective: 3.11 Given a scenario, install and maintain various print technologies.

Remediation Chapter: Chapter 9: Printers

Remediation Heading: Laser Printers

Explanation: Pickup rollers and separator pads are used to grab one piece of paper and pull it into the printer for printing. If multiple pages are being brought into the printer at once, consider replacing the pickup rollers or separator pads. Fusing toner into the paper is a job for the fuser. Transferring toner from its reservoir is usually done by a wire applying a charge to the drum to attract toner. Transferring toner to the paper is done by another wire that applies a charge to the paper to attract the toner off the drum and onto the paper.

Question ID: A+-220-1001-MS-03-1-065

Question: A user is building a high-end gaming PC that includes dual CPUs and a 1,000 W power supply. Which of the following would be best suited for cooling the PC?

- a. Liquid cooling system

- b. Aluminum heat sing and fan
- c. Copper heat sink and fan
- d. Passive heat sink

Correct Answer: a. Liquid cooling system

Exam Domain/Objective: 3.0 Hardware

Exam Subobjective: 3.5 Given a scenario, install and configure motherboards, CPUs, and add-on cards.

Remediation Chapter: Chapter 3: On the Motherboard

Remediation Heading: Processor Cooling

Explanation: A liquid cooling system disperses heat better than any of the other listed options. When building a high-end, high-heat-producing system, you want the best cooling possible, which means liquid cooling. Although copper heat sinks transfer heat better than aluminum heat sinks, they do not offer the cooling capabilities of a liquid system. A passive heat sink is a heat sink without a fan, which is the worst of the options.

Question ID: A+-220-1001-MS-02-1-066

Question: Refer to the exhibit. Identify the connector.



- a. VGA
- b. HDMI
- c. DVI
- d. S-Video

Correct Answer: c. DVI

Exam Domain/Objective: 3.0 Hardware

Exam Subobjective: 3.1 Explain basic cable types, features, and their purposes.

Remediation Chapter: Chapter 2: Connectivity

Remediation Heading: Digital Visual Interface (DVI)

Explanation: The image shows a DVI connector.

Question ID: A+-220-1001-MS-10-1-067

Question: A user wants to use his smartphone in hands-free mode while driving his car. What feature should the user enable?

a. NFC chip

b. Device pairing

c. WiFi

d. None of the above

Correct Answer: b. Device pairing

Exam Domain/Objective: 1.0 Mobile Devices

Exam Subobjective: 1.6 Given a scenario, configure basic mobile device network connectivity and application support.

Remediation Chapter: Chapter 10: Mobile Devices

Remediation Heading: Bluetooth

Explanation: Device pairing usually utilizes the Bluetooth capabilities of the phone and the car and allows the phone to communicate with the car. Pairing a device and a car is much like pairing a Bluetooth headset with another Bluetooth device to allow them to communicate with each other. Once a phone and a car are paired, the phone can then utilize the mic and speakers built into the car. In some cases, it is possible to use a car display to access features of the phone rather than use the phone itself. The NFC chip is used mostly for mobile pay, which allows two devices to exchange information when very close to one another.

Question ID: A+-220-1001-MS-13-1-068

Question: A technician wants to install a SOHO wireless router as an access point within the enterprise. The enterprise firewall is handling all IP address assignments. Which feature of the wireless router should be disabled when integrating it as an access point within the enterprise?

a. NAT

b. PAT

c. Port forwarding

d. DHCP

Correct Answer: d. DHCP

Exam Domain/Objective: 2.0 Networking

Exam Subobjective: 2.6 Explain common network configuration concepts.

Remediation Chapter: Chapter 13: Networking

Remediation Heading: Using DHCP

Explanation: SOHO stands for small office/home office. A SOHO router is a device one would usually purchase from a store to use in a house. By default, these routers hand out IP addresses through DHCP, which makes it easy for a home user to just plug it in, turn it on, plug PCs or other devices into it, and have it work. To avoid IP address conflicts at the office, disable DHCP. NAT, PAT, and port forwarding are all potential features of the SOHO router; however, they are not performed by default.

Question ID: A+-220-1001-MS-13-1-069

Question: Why would a technician use a tone generator?

a. To test the functionality of a cable

b. To locate a cable in a patch panel

c. To verify cable speed

d. To ensure cable integrity

Correct Answer: b. To locate a cable in a patch panel

Exam Domain/Objective: 2.0 Networking

Exam Subobjective: 2.8 Given a scenario, use appropriate networking tools.

Remediation Chapter: Chapter 13 Networking

Remediation Heading: Network Cabling and Troubleshooting Tools

Explanation: A tone generator is used with a tone locator to find a particular cable in a group. You attach a tone generator to one end of a cable and then use a locator on the other end to find the cable that the generator is attached to. A cable tester and a cable certifier would be used to perform the other three answer choices.

Question ID: A+-220-1001-MS-09-1-070

Question: Users report that their laser printer printouts are smudging when they touch them. Which of the following should a technician suspect is the problem?

a. Fuser

b. Rollers

c. Spooler

d. Paper tray

Correct Answer: a. Fuser

Exam Domain/Objective: 5.0 Hardware and Networking Troubleshooting

Exam Subobjective: 5.6 Given a scenario, troubleshoot printers.

Remediation Chapter: Chapter 9: Printers

Remediation Heading: Laser Printers

Explanation: The fuser is the printer component that melts the toner onto the paper. If the toner isn't being completely melted onto the paper, a faulty fuser is probably the culprit. Rollers help pull paper into the printer. The spooler sends print jobs to the print queue, where they wait to be printed. The paper tray holds the paper.

Question ID: A+-220-1001-MS-03-1-071

Question: A user says that after running for a minute or two, a computer randomly turns off and then won't turn back on. After sitting for a few minutes, it turns back on only to shut off again after another minute or two. Which of the following is most likely the cause?

a. RAM is not seated properly

b. CPU is suffering from thermal failure

c. Hard disk drive is failing

d. Graphics settings are too high for the video card

Correct Answer: b. CPU is suffering from thermal failure

Exam Domain/Objective: 5.0 Hardware and Network Troubleshooting

Exam Subobjective: 5.2 Given a scenario, troubleshoot problems related to motherboards, RAM, CPUs, and power.

Remediation Chapter: Chapter 3: On the Motherboard

Remediation Heading: Troubleshooting Processor Issues

Explanation: The description indicates a heat problem, and the most heat-sensitive component is the CPU. If the system remains on long enough, you can check the Event Viewer to see if “thermal failure” is logged there. RAM not being seated properly usually causes a computer to not pass the POST in the first place. Graphics settings that are too high normally produce errors or just visual problems. Hard disk failure would also stop the computer from booting and hopefully generate S.M.A.R.T. errors.

Question ID: A+-220-1001-MS-10-1-072

Question: A user is in a remote location with no Internet connection and would like to use her mobile device to connect to the Internet. Which of the following technologies would she use?

- a. Infrared
- b. Bluetooth
- c. NFC

d. Hotspot

Correct Answer: d. Hotspot

Exam Domain/Objective: 1.0 Mobile Devices

Exam Subobjective: 1.5 Given a scenario, connect and configure accessories and ports of other mobile devices.

Remediation Chapter: Chapter 10: Mobile Devices

Remediation Heading: Hotspot/Tethering

Explanation: A hotspot is a device that communicates through the cell towers and acts as an access point to other devices for Internet connectivity while utilizing the cellular data network. You can use most devices as hotspots if you are paying for the feature. NFC allows a phone to communicate within a very short distance. Infrared is an older line-of-sight communication protocol for exchanging data. Bluetooth is a short-range wireless communication protocol that is usually for peripheral devices.

Question ID: A+-220-1001-MS-10-1-073

Question: Which cell phone component is a unique number for a phone?

a. IMSI

b. IMEI

c. Gyroscope

d. Digitizer

Correct Answer: b. IMEI

Exam Domain/Objective: 1.0 Mobile Devices

Exam Subobjective: 1.6 Given a scenario, configure basic mobile device network connectivity and application support.

Remediation Chapter: Chapter 10: Mobile Devices

Remediation Heading: IMEI and IMSI

Explanation: The International Mobile Equipment Identity (IMEI) is a unique number given to a cell phone to uniquely identify the phone. It is like a serial number. This number is stored in the Equipment Identity Register (EIR). In contrast, the international mobile subscriber identity (IMSI) is a unique number stored in a phone's subscriber identification module (SIM) that is used to identify the user of a cellular network. The gyroscope measures the angle at which the phone is rotating. The digitizer is used for touchscreens to translate pressure or touch actions into digital signals.

Question ID: A+-220-1001-MS-03-1-074

Question: A disgruntled employee has placed a BIOS password on a computer, and the technician has been called to unlock the machine. What are two options the technician can try to get the computer operational again? (Choose two.)

a. USB tether

b. Motherboard jumper

c. 10-second power button hold

d. Paper clip in the BIOS unlock hole

e. CMOS battery removal

Correct Answer: b. Motherboard jumper, e. CMOS battery removal

Exam Domain/Objective: 3.0 Hardware

Exam Subobjective: 3.5 Given a scenario, install and configure motherboards, CPUs, and add-on cards.

Remediation Chapter: Chapter 4: Introduction to Configuration

Remediation Heading: Clearing CMOS

Explanation: Motherboard manufacturers use various methods for clearing the stored BIOS information from CMOS, such as jumpering two motherboard pins together, pushing or holding down a motherboard push button, or removing the CMOS battery. Always refer to the manufacturer's instructions to clear CMOS information.

Question ID: A+-220-1001-MS-12-1-075

Question: Which virtual technology provides sharing of RAM or CPUs between the operating systems in each VM?

- a. Measured service
- b. Cloud-based network controller
- c. Resource pooling
- d. Storage services

Correct Answer: c. Resource pooling

Exam Domain/Objective: 4.0 Virtualization and Cloud Computing

Exam Subobjective: 4.1 Compare and contrast cloud computing concepts.

Remediation Chapter: Chapter 12: Internet Connectivity, Virtualization, and Cloud Technologies

Remediation Heading: Cloud Advantages

Explanation: Virtualization allows multiple operating systems to share hardware such as RAM, CPUs, and NICs. Servers are commonly virtualized and take advantage of resource pooling and the shared resources involved in virtualization.

Question ID: A+-220-1001-MS-13-1-076

Question: Which IoT smart home wireless standard uses the same frequency as 802.11?

- a. Bluetooth
- b. Z-Wave
- c. IR
- d. Zigbee

Correct Answer: d. Zigbee

Exam Domain/Objective: 2.0 Networking

Exam Subobjective: 2.4 Compare and contrast wireless networking protocols.

Remediation Chapter: Chapter 13: Networking

Remediation Heading: IoT and Smart Devices

Explanation: Common standards used for IoT devices in smart homes are 802.11 WiFi, Zigbee, and Z-Wave. Zigbee uses the same 2.4 GHz frequency as some 802.11 wireless networks. Zigbee supports 128-bit AES encryption and is connected in a wireless mesh network that contains a Zigbee coordinator and optionally a Zigbee router to extend the network.

Question ID: A+-220-1001-MS-10-1-077

Question: A corporate user notices that when using the company laptop or his cell phone, WiFi connectivity is good, but when he uses the cell phone as a hotspot in the same area of the room, the Internet connection is extremely slow. What is most likely the problem?

- a. The cell phone software needs to be updated.
- b. The company has implemented bandwidth throttling.
- c. There are too many wireless devices in the area.
- d. There is wireless interference from an adjacent wireless network using the same channel.

Correct Answer: b. The company has implemented bandwidth throttling.

Exam Domain/Objective: 5.0 Hardware and Network Troubleshooting

Exam Subobjective: 5.7 Given a scenario, troubleshoot common wired and wireless network problems.

Remediation Chapter: Chapter 10: Mobile Devices

Remediation Heading: Hotspot/Tethering

Explanation: When providing Internet access, a company may implement bandwidth throttling on video streaming and on sharing a connection with other wireless devices through tethering or a hotspot.

Question ID: A+-220-1001-MS-06-1-078

Question: A technician is reviewing storage options with a user. Which type of memory is non-volatile and will hold data even when the computer loses power?

- a. Cache

b. L1

c. DDR3

d. Flash

Correct Answer: d. Flash

Exam Domain/Objective: 3.0 Hardware

Exam Subobjective: 3.4 Given a scenario, select, install and configure storage devices.

Remediation Chapter: Chapter 6: Memory

Remediation Heading: Flash Memory

Explanation: Flash memory is non-volatile. Data stored in flash will remain even if power is lost. Cache, L1, and DDR3 memory are volatile, meaning that when power is lost, all data is lost as well.

Question ID: A+-220-1001-MS-10-1-079

Question: Which wireless technology commonly includes haptic feedback?

a. WiFi

b. NFC

c. Cellular

d. IR

Correct Answer: b. NFC

Exam Domain/Objective: 2.0 Networking

Exam Subobjective: 2.4 Compare and contrast wireless networking protocols.

Remediation Chapter: Chapter 10: Mobile Devices

Remediation Heading: Near Field Communication (NFC)

Explanation: Haptic feedback is a vibration such as the vibration of a cell phone vibrates when you have the sound muted and someone is calling you. NFC commonly uses haptic feedback to signal that a financial transaction has just occurred so you know to move the NFC-enabled card or device away.

Question ID: A+-220-1001-MS-02-1-080

Question: Which of the following video connectors can handle both digital and analog video?

a. DVI-I

b. DVI-D

c. DVI-A

d. HDMI

Correct Answer: a. DVI-I

Exam Domain/Objective: 3.0 Hardware

Exam Subobjective: 3.1 Explain basic cable types, features, and their purposes.

Remediation Chapter: Chapter 2: Connectivity

Remediation Heading: Digital Visual Interface (DVI)

Explanation: DVI-I can transmit both digital and analog video. DVI-D is only digital. DVI-A is only analog. HDMI is digital.

Question ID: A+-220-1001-MS-07-1-081

Question: A user's computer fails to boot and displays S.M.A.R.T. errors. Which of the following components is most likely to have failed?

a. CPU

b. RAM

c. Display

d. HDD

Correct Answer: d. HDD

Exam Domain/Objective: 5.0 Hardware and Network Troubleshooting

Exam Subobjective: 5.3 Given a scenario, troubleshoot hard drives and RAID arrays.

Remediation Chapter: Chapter 7: Storage Devices

Remediation Heading: Troubleshooting Previously Installed Storage Devices

Explanation: S.M.A.R.T. monitors your hard disk drive (HDD). S.M.A.R.T. errors usually indicate that the drive may be failing. If you can still access the drive, you should back up your data immediately.

Question ID: A+-220-1001-MS-11-1-082

Question: A person walks into a computer store, looking for a computer that will be used for writing letters, documenting health, communicating with remote family members, and streaming video. Which hardware technology should the technical salesperson ensure is part of the sale?

- a. WiFi
- b. High-end video/specialized GPU

c. RAID

- d. SSD

Correct Answer: c. RAID

Exam Domain/Objective: 3.0 Hardware

Exam Subobjective: 3.8 Given a scenario, select and configure appropriate components for a custom PC configuration to meet customer specifications or needs.

Remediation Chapter: Chapter 11: Computer Design, Specialized Installation, and Troubleshooting Methodology

Remediation Heading: Network-Attached Storage (NAS) Devices

Explanation: A network-attached storage (NAS) device is used for video/music streaming as well as file sharing. A NAS contains multiple hard drives and commonly includes a RAID array for data protection.

Question ID: A+-220-1001-MS-03-1-083

Question: A customer at a computer store wants to build a small computer to mount under a desk. Which of the following should the technical salesperson recommend as a motherboard form factor that is the smallest?

- a. μ ATX

- b. mATX

- c. ITX

d. mITX

Correct Answer: d. mITX

Exam Domain/Objective: 3.0 Hardware

Exam Subobjective: 3.5 Given a scenario, install and configure motherboards, CPUs, and add-on

cards.

Remediation Chapter: Chapter 3: On the Motherboard

Remediation Heading: Types of Motherboards

Explanation: An ITX motherboard is smaller than an ATX motherboard. ITX form factors include mini-ITX (mITX), nano-ITX, and pico-ITX. Pico-ITX is the smallest motherboard form factor.

Question ID: A+-220-1001-MS-09-1-084

Question: A technician is responding to a call about an inkjet printer that is not printing all of any character. Which of the following should the technician do first?

a. Print an alignment page

b. Clean the print head

c. Replace the ink cartridges

d. Replace the imaging drum

Correct Answer: b. Clean the print head

Exam Domain/Objective: 5.0 Hardware and Network Troubleshooting

Exam Subobjective: 5.6 Given a scenario, troubleshoot printers.

Remediation Chapter: Chapter 9: Printers

Remediation Heading: Inkjet Printer Troubleshooting

Explanation: Cleaning the print heads is an easy first step to deal with printing problems on an inkjet printer, especially since the ink is known to dry up on the print head and cause printing problems. If the print heads are dirty, the alignment page isn't going to print properly, so you should probably check the print head before that. Replacing the ink cartridge is a waste of time if all that's causing the problem is a dirty print head. The imaging drum is part of a laser printer, not an inkjet printer.

Question ID: A+-220-1001-MS-10-1-085

Question: A computer company has been hired to provide support to a person who sells crafts at trade shows and fairs. The company must configure all devices and train the user as part of the contract and sale. Which technology should the technician recommend and configure for the handling of secure wireless payments?

a. USB

b. WiFi

c. Bluetooth

d. NFC

Correct Answer: d. NFC

Exam Domain/Objective: 1.0 Mobile Devices

Exam Subobjective: 1.5 Given a scenario, connect and configure accessories and ports of other mobile devices.

Remediation Chapter: Chapter 10: Mobile Devices

Remediation Heading: Near Field Communication (NFC)

Explanation: Wireless technologies for mobile devices include Bluetooth, WiFi, NFC, and IR. Wireless payments are commonly handled using near field communication (NFC), where a device such as a smartphone is held in close proximity to an NFC-enabled device.

Question ID: A+-220-1001-MS-08-1-086

Question: Which of the following would be the most effective for storing 8 GB of data while minimizing costs and the number of discs?

a. CD-R

b. DVD-RW

c. DVD-R DL

d. Blu-ray DL

Correct Answer: c. DVD-R DL

Exam Domain/Objective: 3.0 Hardware

Exam Subobjective: 3.4 Given a scenario, install and configure storage devices.

Remediation Chapter: Chapter 8: Multimedia Devices

Remediation Heading: Optical Drive Features

Explanation: A standard DVD can hold about 4.7 GB of data, and a DL (dual-layer) DVD would be double that, which means it would be able to hold the 8 GB of data required without requiring more than one disc. A Blu-ray can hold much more than 8 GB but costs more. CD media can store only 700 MB of data.

Question ID: A+-220-1001-MS-02-1-087

Question: After finishing troubleshooting a problem, another user stops and asks about a specific

type of connector. Which of the following can be used not only for audio and video but also for connecting storage devices?

- a. VGA
- b. HDMI

c. Thunderbolt

- d. DVI

Correct Answer: c. Thunderbolt

Exam Domain/Objective: 3.0 Hardware

Exam Subobjective: 3.1 Explain basic cable types, features, and their purposes.

Remediation Chapter: Chapter 2: Connectivity

Remediation Heading: Thunderbolt

Explanation: A Thunderbolt connection allows for a wide variety of peripheral devices in a single multifunction port. VGA and DVI are used for video. HDMI can carry video and audio signals.

Question ID: A+-220-1001-MS-10-1-088

Question: A user reports that he has been having issues with the mouse cursor jumping around the screen while he is typing on a new laptop. Which of the following is the most probable cause?

- a. Display drivers
- b. Mouse drivers
- c. Keyboard settings

d. Touchpad settings

Correct Answer: d. Touchpad settings

Exam Domain/Objective: 5.0 Hardware and Network Troubleshooting

Exam Subobjective: 5.5 Given a scenario, troubleshoot common mobile device issues while adhering to the appropriate procedures.

Remediation Chapter: Chapter 10: Mobile Devices

Remediation Heading: Laptop Keyboards/Touchpad

Explanation: The touchpad on a laptop usually resides in an area your hands occupy on the laptop when typing, and if you are not careful or used to the touchpad location, you might brush against it with your hands. Usually there is a button or hotkey you can press on the keyboard to temporarily disable the touchpad.

Question ID: A+-220-1001-MS-13-1-089

Question: A user reports being unable to access an FTP server online to download a file. Which of the following may be the cause?

- a. Port 80 is blocked on the firewall
- b. Port 443 is blocked on the firewall
- c. Port 21 is blocked on the firewall
- d. Port 110 is blocked on the firewall

Correct Answer: c. Port 21 is blocked on the firewall

Exam Domain/Objective: 2.0 Networking

Exam Subobjective: 2.1 Compare and contrast TCP and UDP ports, protocols, and their purposes.

Remediation Chapter: Chapter 13: Networking

Remediation Heading: The TCP/IP Model in Action

Explanation: Ports 20 and 21 are used for FTP traffic. Port 80 is for HTTP. Port 443 is for HTTPS, which is secure web traffic. Port 110 is used for POP3, which is an e-mail protocol.

Question ID: A+-220-1001-MS-07-1-090

Question: Which of the following is not a type of hard disk drive connection?

- a. IDE
- b. SCSI
- c. HDMI
- d. SATA

Correct Answer: c. AGP

Exam Domain/Objective: 3.0 Hardware

Exam Subobjective: 3.1 Explain basic cable types, features, and their purposes.

Remediation Chapter: Chapter 7: Storage Devices

Remediation Heading: Storage Devices Overview

Explanation: AGP is an older type of motherboard designed specifically for a video/graphics

card. SATA, SCSI, and IDE are all hard drive connection types.

Question ID: A+-220-1001-MS-11-1-091

Question: A user calls to complain that her computer is not working. What should the technician do next?

- a. Establish a theory of probable cause
- b. Question the obvious
- c. Identify the problem
- d. Test the theory

Correct Answer: c. Identify the problem

Exam Domain/Objective: 5.0 Hardware and Network Troubleshooting

Exam Subobjective: 5.1 Given a scenario, use the best practice methodology to resolve problems.

Remediation Chapter: Chapter 11: Computer Design, Specialized Installation, and Troubleshooting Methodology

Remediation Heading: Step 1: Identify the problem

Explanation: The six steps of the troubleshooting best practice methodology are as follows: (1) Identify the problem. (2) Establish a theory of probable cause (question the obvious). (3) Test the theory to determine the cause. (4) Establish a plan of action to resolve the problem and implement the solution. (5) Verify full system functionality and if applicable, implement preventive measures. (6) Document findings, actions, and outcomes.

Question ID: A+-220-1001-MS-18-2-092

Question: Which network security measure is most likely to be used by a company that has 130 employees?

- a. IPS
- b. UTM
- c. IDS
- d. wireless controller

Correct Answer: b. UTM

Exam Domain/Objective: 2.0 Networking

Exam Subobjective: 2.5 Summarize the properties and purpose of services provided by networked hosts.

Remediation Chapter: Chapter 18: Computer and Network Security

Remediation Heading: Internet Appliances

Explanation: A unified threat management (UTM) system is a single device that provides multiple system functions, such as content filtering, antivirus, anti-spyware, anti-malware, firewall, and intrusion detection/prevention. Because it is a multifunction device, it is likely to be used by a small company.

Question ID: A+-220-1001-MS-10-2-093

Question: What technology is used to connect a wireless speaker to a mobile device?

a. Bluetooth

b. VPN

c. NFC

d. Tethering

Correct Answer: a. Bluetooth

Exam Domain/Objective: 2.0 Networking

Exam Subobjective: 2.4 Compare and contrast wireless networking protocols.

Remediation Chapter: Chapter 10: Mobile Devices

Remediation Heading: Bluetooth

Explanation: Bluetooth is a wireless technology that operates in the 2.4 GHz range to attach wireless devices in close proximity to a mobile device. A virtual private network (VPN) is used to securely connect to a corporate network device from a remote location such as home or hotel. Near field communication (NFC) is used to transmit information wirelessly between two very close devices, such as phone photos to a printer or payment data to a payment receiver. Tethering involves providing Internet access to other nearby wireless devices.

Question ID: A+-220-1001-CS-12-2-094

Question: Which scenario is an example of IaaS?

a. A company uses another company to provide a web server and a programming language execution environment

- b. A company uses another company that provides virtual machines for a disk image library
- c. A company uses another company for Microsoft Office 365

d. A company uses another company to provide network switches and routers

Correct Answer: d. A company uses another company to provide network switches and routers

Exam Domain/Objective: 4.0 Virtualization and Cloud Computing

Exam Subobjective: 4.1 Compare and contrast cloud computing concepts.

Remediation Chapter: Chapter 12: Internet Connectivity, Virtualization, and Cloud Technologies

Remediation Heading: Table 12.8: Cloud service types

Explanation: Infrastructure as a Service (IaaS) involves routers, switches, servers, virtual machines, load balancers, access points, storage, and other network infrastructure devices being provided and managed by an outside company. Platform as a Service (PaaS) is a cloud technology in which servers, databases, operating systems, storage, and development tools are provided. With Software as a Service (SaaS), a company provides applications such as a learning management system (LMS), enterprise resource planning (ERP), or any other application, such as Office 365. With Desktop as a Service (DaaS), users access a desktop that is managed by another company.