

# CompTIA® A+ - Quiz Questions with Answers

---

## 1101 1.0: Mobile Devices

---

1101 1.0: Mobile Devices

1.

Which solution can provide encryption for email on mobile devices?

SSL

2FA

MDM

SSID

---

*Correct answer: SSL*

*Secure Sockets Layer (SSL) can be used with mail protocols SMTP, IMAP, and POP. These use port numbers that are different from their unencrypted counterparts.*

*Two-factor authentication (2FA) is for adding additional security to logins. Mobile device management (MDM) is for remotely managing users' devices. Service set identifier (SSID) is a wireless network's name.*

---

2.

Which type of battery contains both mercury and silver?

**Button cell**

Nickel-Cadmium

Alkaline

Lithium-Ion

---

*Correct answer: Button cell*

*Button cell batteries are small and round and are used in devices like watches. They are the only type of battery still used that may contain mercury.*

*Nickel-Cadmium contains cadmium, which is toxic. Alkaline batteries have not contained mercury since 1984. Lithion-Ion batteries do not contain hazardous materials.*

---

**3.**

If you wanted to upgrade a hard disk drive to a faster, less volatile storage device, what type of device would you install?

**SSD**

HDD

PATA

SATA

*Correct answer: SSD*

*A solid-state drive (SSD) uses flash memory technology to store data. It's faster and significantly less volatile because it is far less susceptible to drop damage and EMI. SSD storage has grown in size dramatically, and the price has fallen very quickly. They've become a viable element for improving the performance of nearly all computers.*

*HDD stands for hard disk drive, and they are not as fast as solid-state drives (SSDs). PATA and SATA are standards for connecting hard drives.*

---

**4.**

On an iPhone, what status is given to a device that is paired but NOT actively communicating with the phone?

**Not Connected**

Connected

Not Paired

Pairing Request

*Correct answer: Not Connected*

*A Bluetooth device that has been paired but is not currently connected will show up as Not Connected on the Bluetooth settings screen. If a device is paired but is not connecting, make sure that the device is unpaired with any other systems around you, then pair it with the iPhone again.*

*The Connected status is for paired devices that are currently connected. The Not Paired status is a device that has not gone through the pairing process. A Pairing Request screen shows up when a device is sharing a code to confirm a pairing.*

---

**5.**

You are on the phone with a user who has an Android phone. They are looking for the company mail application on their device but are unable to locate it. You determine that it is not installed.

Which of the following would you direct them to in order to obtain the application?

**Google Play Store**

Settings

File Manager

Browser

---

*Correct answer: Google Play Store*

*Google Play Store is a digital distribution service operated and developed by Google. It serves as the official app store for the Android operating system and allows users to browse and download applications developed with the Android software development kit (SDK) and published through Google.*

*The Settings app is used to configure various options on the device, such as network settings, display settings, and system preferences. It is not used for downloading and installing applications. The File Manager app is used to browse and manage files on the device's internal storage and SD card. It is not used for downloading applications from the internet. While a browser can be used to search for information and access websites, it is not the primary method for installing applications on Android devices. The Google Play Store is specifically designed for this purpose.*

---

**6.**

If you need more ports, connectivity to a monitor, and the ability to charge your laptop, what type of device should you purchase?

**Docking station**

Expansion bay

Desktop converter

PC connector

---

*Correct answer: Docking station*

*A docking station lets you use a laptop as a desktop. It offers extra ports and a monitor connection, and it charges your laptop.*

*An expansion bay is an area on PCs for adding components like CD-ROM drives, not for charging a laptop. The other answer choices are not accepted terminology.*

---

7.

What is the outbound email server for Exchange Online?

**smtp.office365.com**

smtp.live.net

imap.live.com

outlook.office365.net

---

*Correct answer: smtp.office365.com*

*SMTP servers are used for outbound email to send messages to recipients. For Microsoft's Office 365 and Outlook.com email services, smtp.office365.com must be configured in users' email clients to send outbound email.*

*The other answer choices are not officially recognized servers.*

---

8.

What do we call the serial number that is unique to every mobile device?

**International Mobile Equipment Identity**

National Mobile Identity Number

Unique Global Identifier

Global Manufacturer Serial Number

---

*Correct answer: International Mobile Equipment Identity*

*The International Mobile Equipment Identity (IMEI) number is a 15-digit serial number that uniquely identifies every mobile phone. An IMEI is typically used in instances of theft because it leads to a blocklisting of the IMEI number so that it can't be reconfigured on other mobile plans. T-Mobile and AT&T were the first networks to make use of the IMEI setup.*

*The other answer choices are not accepted terminologies.*

---

**9.**

Which of the following is a subscription service that includes applications like Word, Excel, and PowerPoint and a cloud service that can sync devices?

**Microsoft 365**

ActiveSync

Google Workspace

iCloud

---

*Correct answer: Microsoft 365*

*ActiveSync is a protocol for accessing email, calendar, and contacts information across devices. Google Workspace is a collection of productivity apps from Google. iCloud is a cloud storage service from Apple.*

---

**10.**

You want to take the necessary steps to secure your laptop from theft. What common security device is used to protect a laptop from physical theft?

**Cable lock**

Safe mode

Password

Proximity alarm

*Correct answer: Cable lock*

*A cable lock is a commonly purchased accessory to protect a laptop from physical theft.*

*All of these options may work to some degree, but the best common device is the cable lock, which securely fastens the laptop to an immovable surface.*

---

**11.**

When a touchscreen device is capable of detecting and responding to multiple simultaneous touch points, what is this technology commonly referred to as?

**Multi-touch**

Capacitive sensing

Haptic feedback

Resistive touch

*Correct answer: Multi-touch*

*Multi-touch is a technology that allows a touchscreen to recognize and respond to multiple contact points simultaneously, enabling complex gestures and interactions. It allows you to expand or contract an image using more than one finger.*

*Capacitive sensing is used in many touchscreens to detect the presence of a touch by measuring changes in capacitance. However, it does not specifically refer to the capability of detecting multiple touch points. Haptic feedback refers to the use of touch sensation (such as vibrations) to provide feedback to the user. It is not related to detecting multiple touch points. Resistive touch is a type of touchscreen technology that detects touch through pressure applied to the screen, typically only able to register one touch point at a time and is not inherently multi-touch capable.*

---

**12.**

A user complains that his laptop is slow to start up and his applications seem to take a long time to open. You investigate the system and discover that it has 8 GB of RAM, a quad-core processor, and a 7200 RPM hard disk drive (HDD). Based on this information, what would resolve the customer's complaints?

**Install a solid-state drive**

Install a 12K RPM HDD

Upgrade the RAM to 16 GB

Upgrade the CPU

---

*Correct answer: Install a solid-state drive*

*In this scenario, the largest bottleneck is the hard drive. 8 GB of RAM is sufficient for most average users, and a quad-core CPU is often more than enough. In this case, the customer would best benefit from the hard drive being upgraded to a solid-state drive (SSD). An SSD provides faster read times on the data, which enables faster startup times and quicker access to applications.*

*A 12K RPM HDD would be slower than an SSD drive. RAM and CPU will not increase how quickly a computer can boot because they are not reading as much data.*

---

**13.**

A user is trying to use their smartphone's touch screen while wearing gloves, but the screen is not registering their touch. Which type of touchscreen is their phone using?

**Capacitive**

Resistive

TouchFLO

PixelSense

*Correct answer: Capacitive*

*A capacitive touch screen uses electrical conductivity. These types of screens are more responsive than other types and can work well with multi-touch but do not function when a material, such as gloves, blocks the electrical current.*

*A resistive screen uses pressure. TouchFLO does not specify the physical technology used. PixelSense is used in larger-scale formats.*

---

**14.**

What is the official, authorized place where users can download iOS apps?

**Apple App Store**

Apple Play

Apple Apps

Apple iMac

---

*Correct answer: Apple App Store*

*The Apple App Store is automatically loaded on any iPhone or iPad. It's the most secure place to download apps from authorized Apple developers.*

*The other options are not legitimate locations to download iOS applications.*

---

**15.**

If you want to download an Android or iOS application, what should you enable on the mobile device?

**WiFi**

Cellular data

App installer

Remote installer

*Correct answer: WiFi*

*WiFi connects to a local network and downloads updates and apps from the WiFi connection. This means that the user's cellular data isn't used. WiFi skips the user's data plan and saves them money.*

*App and Remote installer are not accepted terminologies.*

---

**16.**

What icon do you tap to find and install a new app on an Android?

**Play Store**

App Store

Microsoft Store

Settings

---

*Correct answer: Play Store*

*The Play Store is a Google-maintained repository to install a new app. It is Google's official app market. Just tap "Install" on the app, and the Android device does the rest.*

*The App Store is for iOS. The Microsoft Store is for Windows. The Settings button is for changing Android settings.*

---

**17.**

To add Microsoft Exchange to an iPhone, what must the user select after going to the Settings menu?

**Mail**

General

Wi-Fi

Accessibility

*Correct answer: Mail*

*After opening the Settings menu, choose Mail. From there, you can select "Accounts," "Add Account," and "Microsoft Exchange."*

*The General setting is for profile and device information. The Wi-Fi setting is for connecting to a Wi-Fi network. The Accessibility menu is for individual needs related to vision, speech, and physical access.*

---

**18.**

To configure WiFi on iOS devices, which icon do you press FIRST from the home screen?

**Settings app**

Home app

WiFi button

General button

---

*Correct answer: Settings app*

*From the Home screen, tap the "Settings" icon. In the window that opens, tap "Settings." In the next window, you can then configure your WiFi settings.*

---

**19.**

A user is looking for a tablet that has a Lightning port. Which type of tablet should they choose?

**Apple iPad Pro**

Samsung Galaxy Tab S4

Microsoft Surface Pro 6

Microsoft Surface Pro 7

---

*Correct answer: Apple iPad Pro*

*A Lightning port is a proprietary port to Apple devices. Of the options given, only the Apple iPad Pro has support for Lightning.*

*Other manufacturers focus on various types of USB ports for charging and data transfer. Samsung Galaxy Tab S4 uses a USB-C port for charging and data transfer, not a Lightning port. The Surface Pro 6 and Surface Pro 7 use a Surface Connect port for charging and USB-A and USB-C ports for connectivity, but they do not have Lightning ports.*

---

**20.**

Which of these is the POP3 server name for inbound Gmail email messages?

**pop.gmail.com**

mail.gmail.com

pop3.gmail.com

imap.gmail.com

---

*Correct answer: pop.gmail.com*

*You can use Gmail POP or IMAP protocols for incoming email. When you set up a smartphone or tablet for incoming email, you can use "pop.gmail.com" as the incoming server. If you want to use IMAP, the address is "imap.gmail.com."*

*The other answer choices are not official server names.*

---

**21.**

What is the port number for the IMAP (with SSL)?

**TCP 993**

TCP 465

TCP 587

TCP 995

---

*Correct answer: TCP 993*

*IMAP is an alternative protocol for POP. Both of these protocols are responsible for incoming email messages. With TCP 993, incoming transmissions of emails are encrypted, which improves privacy and security. This does not encrypt the actual email itself, but merely the tunnel the email is transported through.*

- *TCP port 465 is for SMTP with SSL.*
  - *TCP port 587 is for SMTP with TLS.*
  - *TCP port 995 is for POP with SSL/TLS.*
-

**22.**

What menu item on an Android device lets you set up the Wi-Fi connection?

**Settings**

Play Store

Mobile data button

Bluetooth button

---

*Correct answer: Settings*

*The Settings menu is where you find several Android device preferences. You can set up the Wi-Fi connection in the Wireless and Networks section.*

*The Play Store is for downloading apps. The Mobile data button is for toggling cellular data. The Bluetooth button is for toggling Bluetooth.*

---

**23.**

What type of solution enrolls devices on a corporate network so they can be managed for security?

**MDM**

GPS

2FA

Bluetooth

*Correct answer: MDM*

*A mobile device management (MDM) system keeps track of users' devices to increase an organization's security. This enforces policies on the device, as well as enabling remote tracking, locking, unlocking, encrypting, and wiping.*

*The Global Positioning System (GPS) is used for providing location and time services. Two-factor authentication (2FA) is used to improve a user's login security. Bluetooth is a short-range wireless protocol.*

---

**24.**

Which of the following is needed to sync an Apple mobile device to a desktop computer?

**iTunes**

ActiveSync

AppleConnect

Microsoft 365

---

*Correct answer: iTunes*

*To sync an Apple device with a desktop, iTunes needs to be installed on the computer. iTunes is developed by Apple. The proprietary software works natively with Apple computers, but a version for Windows is also available. iTunes performs synchronization with various iOS devices.*

*ActiveSync is a protocol used by Microsoft Exchange Server to sync email, calendar, contacts, and tasks from mobile devices. Microsoft 365 is a subscription service for Microsoft's Office suite of applications such as Word and Excel. AppleConnect is a fabricated term.*

---

**25.**

Capacitive multi-touch technology was developed by what company?

**FingerWorks**

Apple

Google

Microsoft

---

*Correct answer: FingerWorks*

*FingerWorks developed the capacitive multi-touch technology. This was acquired by Apple, who then integrated it into their smartphones and tablets and continues to retain the patents.*

---

**26.**

What is the default port number for SMTP?

**TCP 25**

TCP 110

TCP 143

TCP 389

---

*Correct answer: TCP 25*

*The SMTP protocol is used to send email to the recipient. When you set up a mobile device or email client on a workstation to send email, you use this port for the outgoing server if there is no SSL/TLS encryption.*

- *TCP port 110 is for POP3.*
  - *TCP port 143 is for IMAP4.*
  - *TCP port 389 is for LDAP.*
-

**27.**

You are tasked with repairing a laptop, but the manufacturer's documentation is not included. What option do you have to find out more about the laptop's architecture and specifications?

**The manufacturer's website**

A printed manual

Servicing documentation on the hard drive

Built-in servicing prompt software

---

*Correct answer: The manufacturer's website*

*The manufacturer's website usually has details about the laptop parts and how to repair certain components.*

*It is recommended that a technician utilize the most recent documentation made available and be familiar before performing any modifications or troubleshooting. The other options would not provide the most update to date information.*

---

**28.**

Which technology enables a touchscreen device to recognize and interpret multiple simultaneous touch points, facilitating advanced gestures like pinch-to-zoom and rotate?

**Multi-touch**

Resistive touch

Infrared touch

Surface acoustic wave (SAW) touch

*Correct answer: Multi-touch*

*The ability of a screen to accept more than one contact point is referred to generically as multi-touch. This allows for advanced types of input, such as pinching and stretching, to zoom in and out of images on a mobile device's screen.*

*Resistive touch refers to a technology that relies on pressure applied to the screen and typically supports only single-point touch. Infrared touch uses a grid of infrared beams to detect touch points, but it is not specifically designed for recognizing multiple simultaneous touch points in the same way multi-touch technology is. Surface acoustic wave (SAW) touch uses ultrasonic waves to detect touch but is not typically used for multi-touch capabilities.*

---

**29.**

If you want to set an email server manually on an iPhone without using preconfigured settings, what section of settings do you edit?

**Mail**

Control Center

Accessibility

Cellular

*Correct answer: Mail*

*To manually set up internet email connections on the iPhone after you are in the Settings menu, go to Mail. From there, you can go to "Accounts" to set up a new email account and configure the servers for inbound and outbound messages.*

*The Control Center is for adding, removing, and rearranging controls. Accessibility is for configuring options related to disabilities. The Cellular menu is for configuring settings related to cellular data from the phone provider.*

---

**30.**

A user brings in a laptop with a rubber-tipped stick in the keyboard between the B, G, and H keys. What is that device used for?

**Controlling the on-screen pointer**

Pairing Bluetooth devices

Enabling/disabling Wi-Fi

Middle-mouse button scrolling and clicks

---

*Correct answer: Controlling the on-screen pointer*

*The point stick, or Touchpoint, was created by IBM for their ThinkPad laptops. It lets a user move the cursor around the screen without taking their hands off the keyboard.*

*Pairing Bluetooth devices can be done through the Bluetooth & Other Devices menu. Enabling/disabling Wi-Fi can be done in the Wi-Fi section of Settings. Middle-mouse button functionality is sometimes supported along the right side of a laptop's touchpad.*

---

**31.**

What type of problem can someone encounter when always syncing a mobile device to the cloud?

**Data caps**

Bluetooth pairing

Wi-Fi signal

GPS tracking

---

*Correct answer: Data caps*

*Syncing as well as other activities like checking email and streaming media will consume data. If a device has data caps, then data usage can be monitored by enabling it in the device's Settings menu.*

*Bluetooth pairing involves linking a wireless peripheral to a device. Wi-Fi signal and GPS tracking are independent of cloud syncing.*

---

**32.**

What is the purpose of an inverter in an LCD display?

**Converts DC to AC for the backlight**

Reverses a backward image on the display

Plugs the LCD display into the computer's frame

Processes the display signal from the computer to the screen

---

*Correct answer: Converts DC to AC for the backlight*

*An LCD display that uses fluorescent lighting requires a small device called an inverter to convert the internal DC current that the laptop operates on into AC energy for the bulbs. The advent of LED has removed the necessity for the inverter because LEDs operate on DC, thus negating the need for conversion to AC. This has led to reduced size and thickness of the monitor.*

---

**33.**

What is the default port number for POP3?

**TCP 110**

TCP 25

TCP 587

TCP 993

---

*Correct answer: TCP 110*

*POP3 is the protocol used for incoming email. When you set up incoming email on a smartphone, you must specify an incoming email server and a port number. For most common services, this port number is 110.*

- *TCP port 25 is for SMTP.*
  - *TCP port 587 is for SMTP with SSL/TLS.*
  - *TCP port 993 is for IMAP with SSL/TLS.*
-

**34.**

Laptops strive for smaller form factors and reduced hardware footprints. To accommodate this, laptop keyboards typically come with a reduced key set with a feature to enable additional functionality.

What is used to expand the functions of a laptop keyboard?

**Special function key**

Full keyboard

Numeric keypad

Touch screen

---

*Correct answer: Special function key*

*To expand the functions of a laptop, a Special Function Key is used. This is sometimes abbreviated as the "fn" key, and it can provide a large variety of useful actions, such as controlling display brightness, disabling/enabling the trackpad, and disabling/enabling wireless connectivity.*

*A full keyboard includes all standard keys and often a numeric keypad, but laptops aim to reduce size and weight, so they usually do not include a full-sized keyboard. While touch screens can provide additional functionality, they are not specifically used to expand the functions of a laptop keyboard. Touch screens serve as an alternative input method rather than enhancing the keyboard itself. While a numeric keypad provides additional keys for number entry, it is not commonly included in the compact design of most laptops, and it does not expand the functionality of the existing keys.*

---

**35.**

The Apple iPhone has been a smartphone giant since its inception, with Android becoming its major competitor over the years. Android is the primary operating system, and the iPhone runs a proprietary operating system.

Which of the following is the operating system on Apple's iPhone?

**iOS**

OS X

watchOS

tvOS

---

*Correct answer: iOS*

*iOS (formerly iPhone OS) is a mobile operating system created and developed by Apple Inc. exclusively for its hardware. It is the operating system that presently powers many of the company's mobile devices, including the iPhone, iPad, and iPod Touch.*

*OS X (now called macOS) is the operating system for Apple's Mac computers, not the iPhone. watchOS is the operating system designed for the Apple Watch. It is not used on the iPhone. tvOS is the operating system for the Apple TV.*

---

**36.**

What type of battery was the first on the market for laptops but suffered from rechargeability loss if it was not discharged?

**NiCD**

NiMH

Li-Ion

LiPO

*Correct answer: NiCD*

*NiCD (nickel cadmium) batteries lose the ability to recharge if they are repeatedly charged without draining the battery fully.*

*Lithium and nickel metal hydride batteries do not have this issue.*

---

**37.**

What type of expansion bus replaced PCI and has a point-to-point serial connection for faster speeds?

**PCI Express**

AGP

Mini-PCI

Serial

---

*Correct answer: PCI Express*

*The PCI Express (PCIe) expansion bus is the fastest on the market, with variable slot sizes such as X8, X16, and X32. It has a direct connection to the Northbridge.*

*PCI Express is faster and more flexible than AGP.*

*Mini-PCI is a smaller form factor than PCI.*

*PCI Express uses serial architecture rather than parallel.*

---

**38.**

Before USB mice were available, what was the common mouse port connector?

**PS/2 port**

FireWire

Serial port

COM port

---

*Correct answer: PS/2 port*

*Before USB mouse ports were available, desktops and laptops typically used the PS/2 port. The PS/2 connector is a 6-pin mini-DIN connector.*

*FireWire is not used for input control; it is used for File Transfers. Serial and COM ports are legacy ports used for interaction with old peripherals such as routers, switches, and legacy printers and were once used for joysticks.*

---

**39.**

A laptop has several features that aren't included with a desktop machine. All the following components are part of a laptop's standard hardware EXCEPT:

**External keyboard and mouse**

LCD display

LED display

USB ports

---

*Correct answer: External keyboard and mouse*

*Modern laptops are all equipped with at least an LCD screen, and superior models pack an LED screen for better battery life. As well, most laptops also include three or more USB ports.*

*They do not, however, typically come with an external keyboard and mouse unless purchased separately.*

---

**40.**

Which type of technology can be used to make flexible displays?

**OLED**

LCD

CRT

LED

---

*Correct answer: OLED*

*An OLED display can be made flexible when using thin-film electrodes and a flexible compound. This allows for the display to be used in a new range of applications.*

*An LCD screen needs a backlight behind it, so it is not flexible. A cathode ray tube (CRT) is an obsolete, large monitor with a vacuum tube. An LED is used as a backlight source for LCD screens.*

---

**41.**

To disable mobile data on an iPhone, where do you go from the Settings app?

**Cellular**

Home app

Wi-Fi app

Bluetooth button

---

*Correct answer: Cellular*

*After opening the "Settings" app from the Home Screen, tap "Cellular" and then toggle the switch labeled "Cellular Data." This enables you to force the device to use Wi-Fi or nothing at all. This alleviates issues with data caps and usage rates when at home.*

*The Home app is for controlling smart home accessories. The Wi-Fi tool is for a wireless LAN connection. The Bluetooth button is for connecting wireless peripherals.*

---

**42.**

Which classification is intended to let autonomous vehicles and industrial applications use 5G?

**URLLC**

eMBB

mMTC

LTE

*Correct answer: URLLC*

*Ultra-Reliable Low-Latency Communications (URLLC) is used for important data transfers and is used with autonomous vehicles and remote surgery. It includes scheduling of data transfers as well as shorter and overlapping transmissions.*

*eMBB is used for mobile phone communication over 5G. mMTC is used for IoT devices with 5G. LTE is the dominant standard for 4G that defines its speed, radio interface, and network improvements over 3G.*

---

**43.**

Which application is used to sync an iOS device directly to a desktop?

**iTunes**

iCloud

ActiveSync

Exchange

---

*Correct answer: iTunes*

*iTunes will sync a device to a desktop with iTunes installed. It will sync by default when connected by USB.*

*iCloud syncs a device to the cloud. ActiveSync is used by Microsoft Exchange Server to sync mail, contacts, calendars, and tasks. Exchange is a Microsoft email, calendar, contact, scheduling, and collaboration server.*

---

**44.**

Which app will allow you to wipe an iPhone in the event that its security is compromised?

**Find My iPhone**

iSecurity

Anti iSpy

iWipe

---

*Correct answer: Find My iPhone*

*This app allows you to remotely wipe the iPhone of all data. It is used when an iPhone is stolen and contains sensitive information that you need to protect.*

*iSecurity, Anti iSpy, and iWipe are not official app names for this functionality.*

---

**45.**

What kind of removable memory storage do most mobile devices use to expand their storage area?

**MicroSD**

Magnetic spinning drive

Flash drive

xD-Picture Card

*Correct answer: MicroSD*

*Mobile devices need faster, less volatile memory storage, which is where the solid-state memory of MicroSD comes in. Many modern phones include a MicroSD slot for when internal storage runs out. With MicroSD sizes up to 128GB and larger, they can provide vast amounts of storage. Furthermore, MicroSD cards do not have the platters and movable heads that make hard disk drives more vulnerable to damage. However, with the increase of internal storage built into newer phones and popularity of cloud storage, removable storage on mobile devices is becoming less common.*

*Magnetic spinning drives like HDD, flash drives, and xD-PictureCard are not as small as MicroSD and would not be used in mobile devices.*

---

**46.**

What is the current standard maximum capacity for a single-sided, dual-layer Blu-ray disc?

**50 GB**

25 GB

100 GB

17.1 GB

*Correct answer: 50 GB*

*Conventional Blu-ray discs contain 25 GB per layer, with dual-layer discs (50 GB) being the industry standard for feature-length videos. Triple-layer discs (100 GB) and those with quadruple layers (128 GB) are available for BD-XL re-writer drives.*

*A single-sided, single-layer Blu-ray disc is 25 GB. A dual-sided, dual-layer Blu-ray disc is 100 GB. A dual-side, dual-layer DVD+R disc is 17.1 GB.*

---

**47.**

What is the default port number for IMAP?

**TCP 143**

TCP 110

TCP 25

TCP 993

---

*Correct answer: TCP 143*

*IMAP and POP protocols are responsible for incoming email messages. TCP 143 is for IMAP incoming messages. This port is not encrypted, so it's less secure than encrypted ports such as 993.*

- *Port 110 is for POP3.*
  - *Port 25 is for SMTP.*
-

**48.**

What do some Android devices offer to expand storage beyond just the internal storage?

**MicroSD**

USB

RAID 10

SDRAM

*Correct answer: MicroSD*

*MicroSD card slots are incorporated into many Android devices. They can provide users with many more gigabytes to store data. In addition to expanding the data storage capability, they can be plugged into a computer to add or copy data and then be reinserted back into the device. This is a convenient way to transfer data.*

*USB is used for peripheral devices. RAID 10 uses multiple disks for fault tolerance and increased performance. SDRAM is memory for desktop computers.*

---

**49.**

What is the average browsing speed for 5G networks?

**490 Mbps**

10 Mbps

7 Mbps

3 Mbps

---

*Correct answer: 490 Mbps*

*Browsing on 5G is about ten times faster than on 4G. It uses frequencies in the 600 MHz to 6 GHz range.*

*10 Mbps is in the range of 4G. 7 Mbps is in the range of 3G. 3 Mbps is in the range of Bluetooth.*

---

**50.**

The laptop display is flickering and dim at times. What would you typically do to repair it?

**Replace the backlight**

Degausse the screen

Recharge the inverter

Replace the motherboard

---

*Correct answer: Replace the backlight*

*A laptop screen may be in perfect condition, but the backlight has begun to fail. It is possible to replace the backlight, though it may be easier in some cases to simply replace the entire screen.*

*Degaussing is for CRT screens, touching the inverter can be dangerous, and the motherboard is not part of the monitor.*

---

**51.**

A user is using GPS to find their location and elevation. They are only able to confirm their location, not elevation. How many GPS satellites are they able to receive signals from?

 3 2 4 1

---

*Correct answer: 3*

*GPS requires 3 GPS signals to determine location.*

*Four signals are required to also give elevation.*

---

**52.**

To connect your Android device to a non-Gmail existing email account, what should you choose from the "Add Account" menu?

**Personal (IMAP)**

Internet Email

Home app

Settings button

---

*Correct answer: Personal (IMAP)*

*To to Settings > Accounts and Backup > Manage Accounts, then tap "Add Account". From there, choose "Personal /IMAP" to set your email inbound and outbound server. This will allow you to synchronize and download email to your smartphone or tablet.*

*The other answer choices are not options from the "Add Account" screen.*

---

**53.**

What is the port number for the SMTP (with TLS)?

**TCP 587**

TCP 445

TCP 143

TCP 110

---

*Correct answer: TCP 587*

*The port number for the SMTP with TLS is TCP 587. This port uses encryption, so email sent from a mobile device to an email server is encrypted. Mobile device users should use this port, especially when sending email over a Wi-Fi connection.*

*TCP 445 is the port used for Microsoft-DS (Directory Services) and is primarily associated with Microsoft file sharing. TCP 143 is used for IMAP (Internet Message Access Protocol), which is used for accessing and managing email on a mail server. TCP 110 is used for POP3 (Post Office Protocol version 3), which is used for retrieving emails from a mail server.*

---

**54.**

What is the name of the application ecosystem on Android phones that contributes to its popularity?

**Google Play Store**

App Store

Fedora

Chrome Web Store

---

*Correct answer: Google Play Store*

*The Google Play Store lets users purchase, download, and install all sorts of books, applications, music, and videos on the Android platform. It adds to the popularity because it has many free applications available for download.*

*The App Store is the application store for iOS devices developed by Apple. The other options are not application stores for mobile devices. Fedora is a popular Linux distribution developed by the Fedora Project and sponsored by Red Hat. The Chrome Web Store is an online marketplace where users can discover and install web applications, extensions, and themes for the Google Chrome browser.*

---

**55.**

What is the outbound server name for Gmail email services?

**smtp.gmail.com**

imap.gmail.com

pop3.gmail.com

pop.gmail.com

---

*Correct answer: smtp.gmail.com*

*The server name for outbound Gmail is smtp.gmail.com. This server is used for Gmail users who want to connect to email servers from a mobile device. You need this setting for Android and iOS devices to retrieve email.*

*Imap, pop, and pop3 are for checking mail.*

---

**56.**

You want to expand the disk space of your Android device. What can you buy?

**MicroSD card**

External hard drive

SSD

Flash drive

---

*Correct answer: MicroSD card*

*A microSD card uses flash memory similar to USB thumb drives, SSDs, and larger SD cards. They are very durable and have a very small form factor of less than an inch lengthwise. iPhones and Android phones typically come with expandable storage that utilizes the MicroSD card; however, you must check the manufacturer's website to ensure that the specific phone model has a MicroSD slot. Some phones have done away with it.*

*The other answer choices are too large or use USB to connect.*

---

**57.**

What type of mobile device screen does NOT use a backlight to illuminate its pixels?

**OLED**

CRT

LED

LCD

*Correct answer: OLED*

*The organic light-emitting diode (OLED) is a special type of screen used primarily in mobile devices. These screens use organic compounds and work without a backlight, enabling them to be extremely thin but extraordinarily bright and colorful.*

*Cathode ray tubes (CRT) are older monitors used with desktops. LEDs are used as backlights. LCD needs a backlight to function.*

---

**58.**

What is the server address for inbound Yahoo email messages?

**pop.mail.yahoo.com**

imap.yahoo.com

smtp.mail.com

smtp.yahoo.net

---

*Correct answer: pop.mail.yahoo.com*

*Inbound email messages require POP or IMAP protocols. The inbound server address for Yahoo is pop.mail.yahoo.com.*

*The inbound IMAP server is imap.mail.yahoo.com. SMTP servers are for outgoing mail.*

---

**59.**

Of the following, which BEST describes the notion behind tethering?

**A Wi-Fi device connects to and uses another device's cellular connection for internet access**

A Wi-Fi device connects to and uses another device's Bluetooth connection for internet access

A Bluetooth device utilizes another device's Wi-Fi connection for internet access

A cellular device uses another device's Wi-Fi to access the internet

---

*Correct answer: A Wi-Fi device connects to and uses another device's cellular connection for internet access*

*Tethering is the use of your cell phone (or another mobile device that's connected to the internet through the cellular network) as a modem for another device, usually a laptop or a Wi-Fi-only tablet. This provides internet access wherever cell phones have service. You connect your phone to your laptop or tablet either directly with a USB cable or without wires through Bluetooth or Wi-Fi.*

---

**60.**

Which type of connection will automatically start a sync between a device and a desktop using iTunes when detected?

**USB**

Bluetooth

NFC

PAN

*Correct answer: USB*

*When a USB connection is detected, a device and desktop will sync through iTunes by default. iTunes comes with macOS, but must be installed separately on other OSs. This behavior can be changed in iTunes' Preferences menu.*

*Bluetooth is a short-distance wireless network. Near-field communication (NFC) is a wireless standard for contactless payments. A personal area network (PAN) encompasses all short-distance wireless networks.*

---

**61.**

You have a customer who is trying to pair their new Bluetooth headset with a mobile phone. The customer is not familiar with the process and would like you to demonstrate it. Which is the MOST accurate sequence of steps?

- A. Confirm pairing and test connectivity
- B. Turn on the Bluetooth device
- C. Have the mobile device search for and select the Bluetooth device
- D. Enter the pairing code

**B, C, D, A**

A, B, C, D

D, B, C, A

B, C, A, D

*Correct answer: B, C, D, A*

*The exact process for Bluetooth pairing will differ for each mobile device OS, but generally speaking, the steps are:*

- 1. Turn on the Bluetooth device (B)*
  - 2. Have the mobile device search for and select the Bluetooth device (C)*
  - 3. Enter the pairing code (D)*
  - 4. Confirm pairing and test connectivity (A)*
-

**62.**

Which application does Apple provide for syncing a device to a desktop?

**iTunes**

Finder

OneDrive

ActiveSync

---

*Correct answer: iTunes*

*iTunes is installed by default on a Mac. A device can synchronize when it is connected by USB or Wi-Fi and is listed as a recognized device by iTunes.*

*Finder is a file manager for macOS. OneDrive is a cloud storage solution by Microsoft. ActiveSync is a Microsoft product for synchronizing with Microsoft Exchange Server.*

---

**63.**

iOS devices require which of the following to properly sync over Wi-Fi?

**Sufficient power**

Plugged-in power source

Full battery

Currently charging battery

---

*Correct answer: Sufficient power*

*Though Wi-Fi sync recommends being plugged into a charger, it is possible with sufficient power to perform it without needing to charge. If you connect the iPhone to a computer via USB, the sync happens immediately when you connect the iPhone to the computer that's running iTunes. In both instances, the iPhone needs sufficient power to properly sync.*

---

**64.**

When you use mapping apps, what service does a mobile device use to find your destination and current location?

**GPS**

Accelerometer

Gyroscope

Magnetometer

*Correct answer: GPS*

*A mobile device's global positioning system (GPS) uses satellites to determine its location. When using a mapping app, the GPS service is triggered to find the current location and the user's destination.*

*An accelerometer measures vibration or acceleration of a device. A gyroscope measures the rotation of a device. A magnetometer senses orientation.*

---

**65.**

The creation of which new technology has allowed laptops and televisions to become much slimmer, smaller, and more efficient?

**LED**

CRT

Halogen

CFL

*Correct answer: LED*

*Light Emitting Diodes (LEDs) are extraordinarily small but intensely bright lights that have recently become very cheap to produce. They have extremely high levels of efficiency with very low power consumption, so they are ideal for replacing the backlights in laptop screens. Because of LED's and OLED's extremely small footprint and cost, laptop screens and televisions have become significantly cheaper and thinner.*

*A cathode ray tube (CRT) is a vacuum tube used in old, large displays. Halogen lights do not last long and consume much more energy. A compact fluorescent lamp (CFL) is not as bright and doesn't last as long.*

---

**66.**

What is the MOST common pointing device installed on a laptop?

**Touchpad**

Trackball

Touchscreen

Mouse

---

*Correct answer: Touchpad*

*Touchpads come readily available on all laptops on the market, whereas touchscreens are still few and far between.*

*With each vendor offering different features such as multi-touch, special scrolling capabilities, and even in some cases, pressure sensitivity, it's easy to see why touchpads are so ubiquitous. A trackball is an inverted mouse. A mouse is not installed on a laptop.*

---

**67.**

Which of the following devices would possibly use a Lightning connector for charging and data transfer?

**Apple iPhone**

Samsung smartphone

Windows laptops

USB flash drives

---

*Correct answer: Apple iPhone*

*The Lightning connector is a proprietary connector used by Apple for charging and data transfer on devices such as the iPhone, iPad, and some iPod models. It was introduced by Apple in 2012, replacing the older 30-pin dock connector.*

*Samsung smartphones typically use USB Type-C or micro-USB connectors for charging and data transfer, not the Lightning connector, as it is proprietary to Apple. Windows laptops use various types of connectors, such as USB Type-A, USB Type-C, and proprietary charging ports, but not the Lightning connector. USB flash drives commonly use USB Type-A, USB Type-C, or micro-USB connectors.*

---

**68.**

What device was originally added to IBM laptops to allow users to move the mouse without taking their hands away from the "home" typing position?

**Touchpoint**

Touchpad

Trackball

Joystick

*Correct answer: Touchpoint*

*IBM originally invented the Touchpoint interface, also known as a point stick. It is a small, eraser-sized pointing device that is situated in the center of a laptop keyboard.*

*A touchpad is a rectangular area that accepts touch input. A trackball is like an inverted mouse. A joystick is larger device controlled by the whole hand and not embedded in the keyboard.*

---

**69.**

A user has a new Bluetooth headset that they want to use with their smartphone. What process must they complete for the devices to work together?

**Pairing**

Triangulation

Synchronization

Two-factor authentication

---

*Correct answer: Pairing*

*For Bluetooth to work, the devices must have Bluetooth enabled and then pair them. Each device generates a PIN code that needs to be confirmed first before the devices can connect.*

*Triangulation is used with GPS to determine locations. Synchronization is used with cloud services to keep data in sync. Two-factor authentication is used to make authenticating more secure.*

---

**70.**

Which app can help you locate a missing iPhone?

**Find My iPhone**

Missing iDevice

iPhone Locator

DeviceTracker app

---

*Correct answer: Find My iPhone*

*Find My iPhone works with Apple's iCloud to locate a missing iPhone. It enables users to send messages to the device to allow the finders to call them on another number. They can also send sound alerts to the device to catch the attention of those around them. It also lets users wipe data from a stolen phone to avoid identity theft.*

*Missing iDevice, iPhone Locator, and DeviceTracker are not official names of the app.*

---

# 1101 2.0: Networking

---

1101 2.0: Networking

71.

An administrator wants to set up two separate networks that do not share broadcast domains. Which type of device should they use for this?

**Router**

Switch

Bridge

Hub

---

*Correct answer: Router*

*While a switch and bridge can break up collision domains, a router will break up broadcast domains. That means each network won't be clogged up by broadcasts from the other.*

*A switch breaks up collision domains. A bridge connects two networks. A hub repeats all data it receives.*

---

**72.**

A university campus is likely to use which kind of network?

**MAN**

WPAN

WAN

LPAN

---

*Correct answer: MAN*

*A MAN is typically larger than a LAN and can cover a whole campus of multiple buildings, making it the logical choice. MANs don't cover large geographical distances like WANs, which can span globally connected networks.*

*WPAN and LPAN are not accepted terminologies.*

---

**73.**

An administrator has several workstations that need to be networked together. The administrator wants a device that analyzes packets and sends them only to the appropriate device. Which type of device should they use to connect the workstations?

**Switch**

Hub

Repeater

Modem

---

*Correct answer: Switch*

*A switch is a device with several ports that computers can connect to. A switch will filter on Layer 2 so that packets only go to their destination system.*

*A hub has many ports like a switch, but only repeats data without filtering. A repeater extends a cable by amplifying a signal. A modem is a device that translates digital signals to analog so they can use telephone lines for internet access.*

---

**74.**

An administrator wants to use a cable as a backbone to run between different floors of a building. They are looking for the lowest grade of cable that still supports 10 Gbps. What type of cable should they use?

**Category 6**

Category 5e

Category 5

Category 6a

*Correct answer: Category 6*

*A Category 6 cable is the lowest grade of cable that should be used as a backbone between floors of a building. It supports 10 Gbps for up to 55 meters.*

*Category 5e only supports 1 Gbps. Category 5 only supports 100 Mbps. Category 6a is a higher grade that supports 10 Gbps.*

---

**75.**

You need to segment a network using subnetting and then you need those subnets to communicate. What type of device do you need?

**Router**

Bridge

Hub

Modem

*Correct answer: Router*

*A router is capable of creating "paths" (routes) between the subnets and forwarding the data to the appropriate points. The subnets allow the separation needed, such as an HR network and sales network, with routers controlling the connections between the two departments.*

*A bridge is for connecting segments into a single network. A hub only re-broadcasts data. A modem connects one network to another by converting data to a format that can be transmitted through a medium such as a telephone line or radio.*

---

**76.**

You have been tasked with reviewing server resources due to slow system performance. What resources should you review?

**CPU, RAM, network utilization, and hard drive usage**

Shared folders and hard drive usage

Network card, RAM, and hard drive usage

Drivers, network card, and USB

---

*Correct answer: CPU, RAM, network utilization, and hard drive usage*

*Reviewing these server resources can tell you which resource is the root problem with server performance. The CPU is used for computations and calculations, so software like databases can use a lot. Similarly, with RAM, servers may need access to large sets of data immediately, which gets stored in memory (RAM), which would require a significant quantity for some use cases. The network card(s) is the bandwidth bottleneck for the server, so if these are inadequate, it will impede all network traffic. Finally, hard drive usage (and disk speed) impacts how quickly a server can respond to file requests and delivery.*

*The number of shared folders won't directly affect system performance. USB is related to directly connected peripherals rather than how the system performs as a server. A driver issue would typically stop a device from working rather than slow it down.*

---

**77.**

Which component is responsible for preparing data for the network, sending the data, and controlling the flow of the data?

**NIC**

USB

PCI Express

PCI

*Correct answer: NIC*

*The NIC (network interface card) provides the interface between the computer and the network cables. It is important to use the right type of NIC to maximize the performance of your network connections.*

*USB is used for connecting peripheral devices. PCI and PCI Express are interfaces for motherboard components.*

---

**78.**

What tool does a cable technician use to trace cables and find the path to a specific port?

**Toner probe**

Punchdown tool

Multimeter

Crimper

---

*Correct answer: Toner probe*

*The toner probe helps trace the route of a wire when cables have been left unlabeled or unorganized. They work by attaching a device that sends a tone from one end of a cable to the other. The handheld probe then allows you to wave it over the cable and over patch panel terminations to locate which one is the cable of interest. These can dramatically reduce headaches compared to trying to figure out how to follow cables through walls.*

*A punchdown tool is used to terminate wires into a patch panel. A multimeter is used to measure current and voltage. A crimper is used to join a connector to a cable.*

---

**79.**

169.254.0.0 is the identity of what type of network?

**APIPA**

Class C

Class B

Class A

---

*Correct answer: APIPA*

*APIPA stands for Automatic Private IP Addressing. When a Windows client computer is unable to reach a DHCP server, this address (169.254.0.0) is automatically assigned to the network card. It is possible to use APIPA addresses for routing without a DHCP server, though this is unlikely to be utilized.*

*A Class C network uses 192-223 for the first octet. A Class B network uses 128-191 in the first octet, which includes the APIPA address range. A Class A network uses 1-127 in the first octet.*

---

**80.**

Which of the following BEST describes a Wide Area Network (WAN)?

**A network that spans large geographical areas, connecting multiple smaller networks**

A network that connects computers within a single building or campus

A network that uses wireless technology to connect devices over short distances

A network designed specifically for hosting web applications

---

*Correct answer: A network that spans large geographical areas, connecting multiple smaller networks*

*WAN stands for Wide Area Network, which is a telecommunications network that extends over a large geographic area for the purpose of computer networking. Wide Area Networks are used to connect smaller networks together, such as local area networks (LANs) or metro area networks (MANs), enabling computers and users in one location to communicate with computers and users in other locations.*

*A network that connects computers within a single building or campus would be considered a LAN (local area network). A network that uses wireless technology to connect devices over short distances would be an example of a Wireless Local Area Network (WLAN) or possibly a Personal Area Network (PAN). WANs are not designed specifically for hosting web applications.*

---

**81.**

In a standard installation without custom ports, on what port is RDP commonly configured?

**3389**

110

143

995

---

*Correct answer: 3389*

*RDP uses the TCP protocol at port 3389. For security reasons, some administrators change this default port to a custom, less commonly known port.*

---

**82.**

An administrator needs to attach RJ-45 connectors to UTP cables. What tool can they use to accomplish this?

**Crimper**

Patch cable

Wire stripper

Toner probe

---

*Correct answer: Crimper*

*A crimper attaches RJ connectors to cables. Certain crimpers can work with both RJ-11 and RJ-45 connectors.*

*A patch cable is the Ethernet cable that can result from using a crimper. A wire stripper takes off the sheath around a wire cable. A toner probe confirms the start and endpoint of a cable.*

---

**83.**

An IPv4 address is made up of 32 bits at the binary level. Each class of network addresses has the starting bit set to a specific value. In a Class C network, the first three bits are set to:

**110**

255

0

10

*Correct answer: 110*

*In IPv4 addressing, the different classes of addresses have specific bit patterns to distinguish one from another. For a Class C network, the first three bits are set to "110." This means that the address starts with these three bits followed by the rest, leading to IP addresses ranging from 192.0.0.0 to 223.255.255.255. A Class C network allows for 2,097,152 networks and 254 host machines on each network. It is usually implemented in home networks or small office networks.*

*A Class A network has the first bit set at 0. A Class B network has the first 2 bits set at 10. A Class E network can use 255 for the first octet, which is reserved for testing.*

---

**84.**

An administrator wants to prioritize VoIP traffic on their network. What feature of a switch will allow them to do this?

**QoS**

Redundancy

Port mirroring

VLAN

*Correct answer: QoS*

*QoS (Quality of Service) is a feature of switches that allows them to prioritize certain types of network traffic. This is often used for services like VoIP (Voice over IP) so that the calls have good sound quality.*

*Redundancy refers to using multiple switches to allow multiple paths from point A to point B. Port mirroring is used to monitor what is happening on a port. A VLAN can be configured on a switch to segregate ports into their own virtual LANs.*

---

**85.**

A user needs to take a single coaxial cable and divide it into three lines to send to three different televisions.

What type of device will help the user in this situation?

**Splitter**

T-connector

Terminator

Vampire tap

---

*Correct answer: Splitter*

*A splitter will take a signal and divide it into multiple replicas of the same signal. This can be useful for cable television or cable internet.*

*A T-connector lets a workstation connect to a coaxial network without a vampire tap. A terminator is used to create an endpoint for a coaxial cable network that does not echo back a signal. A vampire tap uses a metal tooth to connect to a cable for a workstation to get access to the network.*

---

**86.**

Cable internet provides broadband internet using a specification known as:

**DOCSIS**

PPTP

Near-Field Communication

DSL

*Correct answer: DOCSIS*

*Data Over Cable Service Internet Specification (DOCSIS) provides the ability to send multiple signals over the cable that exists already for television. It involves a form of multiplexing that splits the signal into multiple wavelengths that are then picked up by the necessary receiving device, which would be a cable modem. The other wavelengths are used for the actual cable television. The latest versions for DOCSIS are 3.0 and 3.1, providing much larger bandwidth capabilities.*

*PPTP is an old VPN protocol. DSL uses phone lines. Near-Field Communication is a short-distance wireless standard.*

---

**87.**

A user has their computer connected to a hub, and it has been operating normally. They decide to unplug the cable from the hub and connect it directly to another computer. What is the result of this action?

**They don't make a connection because they are using a patch cable.**

They don't make a connection because they are using a crossover cable.

They make a connection because they are using a patch cable.

They make a connection because they are using a crossover cable.

---

*Correct answer: They don't make a connection because they are using a patch cable.*

*To connect a computer to a hub or switch, you need a patch cable. To connect to another computer, you need a crossover cable. A crossover cable will match the send and receive pins correctly between computers.*

*Computers connected to a hub use a patch cable. Two computers need a crossover cable to connect directly. They can't make a connection because they are using a patch cable.*

---

**88.**

Which IPv6 address range is for link local unicast addresses?

**FE80::/10**

FF00::/8

FC00::/7

2000::/3

---

*Correct answer: FE80::/10*

*The FE80::/10 range is for link local addresses. This has the same functionality as automatic addresses (APIPA) on IPv4 networks.*

*The FF00::/8 range is for multicast. The FC00::/7 range is for unique local unicasts. The 2000::/3 range is for global unicast addresses to be used on the internet.*

---

**89.**

What wireless technology standard is used to implement most modern wireless Ethernet networks?

**802.11**

803.11

804.11

801

*Correct answer: 802.11*

*IEEE 802.11 defines standards for implementing a Wireless Local Area Network (WLAN). There are many different protocols within the 802.11 standard, some of which are very familiar, such as 802.11b/g/n/a, which is used by routers to provide Wi-Fi with speeds up to about 1300 Mbit/s.*

*803.11, 804.11, and 801 are not wireless technology standards.*

---

**90.**

The common Ethernet standard for the 100BaseT over CAT-5 twisted-pair cable has a maximum speed of 100 Mbps and a maximum distance of how many meters?

**100 meters**

1,000 meters

300 meters

500 meters

---

*Correct answer: 100 meters*

*100BaseT over CAT-5 allows for 100 Mbps transfer rates, but it has a maximum distance of 100 meters before the signal suffers from degradation.*

---

**91.**

An administrator needs to run a UTP cable for 175 meters. What would be the simplest device to allow this to happen?

**Repeater**

Hub

Patch panel

Bridge

*Correct answer: Repeater*

*A repeater just receives a signal and amplifies it. It does not do any analysis of the data. This allows you to make a signal travel farther than the 100m limit of a UTP cable.*

*A hub is used to connect multiple computers. A patch panel is a large hub. A bridge connects multiple LANs.*

---

**92.**

SNMP uses which of the following ports?

**161**

143

25

3389

---

*Correct answer: 161*

*SNMP uses the UDP protocol at port 161. SNMP is used to communicate with network devices such as routers and switches.*

- IMAP4 uses port 143.*
  - SMTP uses port 25.*
  - RDP uses port 3389.*
-

**93.**

Who is credited with developing the first LAN?

**Novell**

IBM

Microsoft

Linux

---

*Correct answer: Novell*

*Novell developed the first, simple LAN networks. Called ShareNet, the network connection provided links between the computers for them to share resources. They did not cover large distances, and they only covered about one single floor of an office and no more than 30 computers.*

---

**94.**

Which of these devices connects an RJ-45 jack to the end of an Ethernet cable?

**Crimper**

Multimeter

Toner probe

Punchdown tool

---

*Correct answer: Crimper*

*A crimper is an extremely useful tool for a network technician and Ethernet cable runner. It has built-in wire strippers as well as a clamp that connects the RJ-45 connector to the Ethernet cable with ease.*

*A multimeter measures a cable's voltage. A toner probe determines the start and end of a cable. A punchdown tool attaches a cable to a patch panel.*

---

**95.**

What type of server do you need to configure if you want users to store data and share folders?

**File server**

Exchange server

IIS

P2P

*Correct answer: File server*

*When a network shares files, it is typically called a file server. If a network shares printers or cameras, for example, it typically would be called a print server or camera server. Furthermore, a server can provide more than one function. For instance, many small businesses run a file server, print server, email server, and, sometimes, even a web server all off of the same physical server.*

*Exchange Server is Microsoft's email server. IIS is Microsoft's web server. P2P is peer-to-peer, which does not need a central server.*

---

**96.**

What category of twisted-pair cable provides the fastest speeds?

**CAT-8**

CAT-1

CAT-7

CAT-6a

*Correct answer: CAT-8*

*Category 8 cable provides 40 Gbps speeds for distances up to 30 meters, or 10 Gbps for distances up to 100 meters.*

*Currently, there are 8 categories of twisted-pair cables. However, if you count subcategories, there are 10. The current categories and subcategories are as follows:*

- **CAT-1:** Voice only, contains only two twisted pairs
  - **CAT-2:** Four twisted pairs, speeds of up to 4 Mbps
  - **CAT-3:** Popular for 10 BaseT, speeds of up to 10 Mbps
  - **CAT-4:** 16 Mbps
  - **CAT-5:** 100 Mbps speed
  - **CAT-5e:** 1 Gbps
  - **CAT-6:** 10 Gbps, distance limitation of 55 meters
  - **CAT-6a:** 10 Gbps up to 100 meters
  - **CAT-7:** Better cross-talk & noise resistance, 10 Gbps, 100 meters
  - **CAT-8:** 40 Gbps up to 30 meters, 10 Gbps up to 100 meters
-

**97.**

Which DNS record type denotes the name or address of an email server?

**MX**

NS

SOA

A

---

*Correct answer: MX*

*An MX record is for mail exchange. Multiple mail servers can be pointed to in the zone file for redundancy.*

*A name Server (NS) record is the name or address of the DNS server for the zone. A Start of Authority (SOA) record denotes the authoritative DNS server for a zone. An A record is for IPv4 hosts.*

---

**98.**

The translation of private IP addresses into public IP addresses for use on the internet is accomplished by:

**NAT**

RADIUS

SSID

HTTP

*Correct answer: NAT*

*Network Address Translation (NAT) performs the translation of non-routable, private IP addresses into public IP addresses for use on the internet. It effectively makes your private computer invisible to other computers on the internet. It can be used to provide many internal servers with access to the singular public IP address through port mapping.*

*RADIUS is for remote authentication, authorization, and accounting. SSID is a name for a Wi-Fi network. HTTP is the protocol for serving web pages.*

---

**99.**

IMAP4 uses which of the following ports?

**143**

25

110

23

---

*Correct answer: 143*

*IMAP4 uses the TCP protocol at port 143. IMAP4 is used by email clients to retrieve email messages.*

- *POP3 uses 110.*
  - *SMTP uses port 25.*
  - *Telnet uses port 23.*
-

**100.**

If you needed to transfer a file between two computers that weren't networked, what would be the BEST device to use?

**Flash drive**

CD

DVD

SSD

*Correct answer: Flash drive*

*Flash drives, or USB thumb drives, give you a few gigabytes of storage data that you can use to transfer files through USB ports.*

*A CD and DVD both need special drives to write to them. An SSD is a type of storage device that is larger than a flash drive.*

---