

Chapter

1

Mobile Devices

THE COMPTIA A+ 220-1201 TOPICS COVERED IN THIS CHAPTER INCLUDE THE FOLLOWING:

✓ **1.1 Given a scenario, monitor mobile device hardware and use appropriate replacement techniques.**

- Battery
- Keyboard/keys
- Random-Access Memory (RAM)
- Hard Disk Drive (HDD)/Solid-State Drive (SSD)
- Wireless cards
- Physical privacy and security components
 - Biometrics
 - Near-field scanner features
- Wi-Fi antenna connector/placement
- Camera/webcam
- Microphone

✓ **1.2 Compare and contrast accessories and connectivity options for mobile devices.**

- Connection methods
 - Universal Serial Bus (USB)/USB-C/MicroUSB/MiniUSB
 - Lightning
 - Near-Field Communication (NFC)
 - Bluetooth
 - Tethering/hotspot
- Accessories
 - Stylus
 - Headsets





- Speakers
- Webcam
- Docking station
- Port replicator
- Trackpad/drawing pad/track points

✓ **1.3 Given a scenario, configure basic mobile device network connectivity and provide application support.**

- Wireless/cellular data network (enable/disable)
 - 3G/4G/5G
 - Hotspot
 - Wi-Fi
 - Subscriber Identity Module (SIM)/eSIM
- Bluetooth
 - Enable Bluetooth
 - Enable pairing
 - Find a device for pairing
 - Enter the appropriate Personal Identification Number (PIN) code
 - Test connectivity
- Location services
 - Global Positioning System (GPS) services
 - Cellular location services
- Mobile Device Management (MDM)
 - Device configurations
 - Corporate
 - Bring Your Own Device (BYOD)
 - Policy Enforcement
 - Corporate applications



- Mobile device synchronization
 - Recognizing data caps
 - Calendar
 - Contacts
 - Business applications
 - Mail
 - Cloud storage

1. You have been asked to purchase a new camera for the company photographer. Some of the cameras are marketed as “smart” cameras. What key feature does this likely mean the camera includes?
 - A. Wi-Fi
 - B. RJ-45
 - C. Separate video processor
 - D. Internal hard drive

2. Your client is a manager at a construction site. They often walk around with a tablet computer, making notes with their finger on the screen as they see issues that need to be addressed. They have been having some trouble getting the computer to recognize what they are writing because their fingers are large and often dirty from working. What is the most cost-effective solution you can suggest that they purchase to make the job easier?
 - A. Stylus
 - B. Trackpad
 - C. Digitizer
 - D. Special gloves

3. Your friend works for a popular rideshare service. Their phone interacts with the service and the passenger so that both know how far away the driver is. What technology needs to be enabled on a cellphone to track where they are?
 - A. GPS
 - B. MDM
 - C. Location Services
 - D. MAM

4. Your company is concerned about how laptops and other remote devices can be secured when they are used by employees at home or on the road. Which of the following can be used to enforce policies and remove corporate applications remotely? (Choose two.)
 - A. GSM
 - B. CDMA
 - C. MAM
 - D. MDM

5. You’re at a friend’s house and want to use their Wi-Fi with your iPhone. You go into Settings, then Wi-Fi, but don’t see their network in your available list. Which of the following will you ask them to do? (Choose two.)
 - A. Provide their security type and password.
 - B. Add your IP address to their network.
 - C. Provide the name of their network.
 - D. Add your MAC address to their router.

6. Your friend's iPhone 13 will no longer charge. They have tried replacing the charging block and cable with compatible ones, cleaning the charging port, and testing the wall outlet. What should be done next?
 - A. Purchase a new phone.
 - B. Purchase a new battery.
 - C. Take the phone to a repair shop.
 - D. Use a wireless charging pad.
7. Your customer brought you a laptop with an internal battery that will no longer charge. You have told them that replacing the battery will be no problem at all. Which of the following will you need to do first?
 - A. Remove the back cover.
 - B. Remove the keyboard.
 - C. Disconnect the external power.
 - D. Disconnect the LCD panel.
8. A coworker is having a problem with their laptop and has asked you to fix it. When an external keyboard is plugged in, the laptop works just fine, but without it, strange characters appear on the screen when typing. Which of the following are likely causes? (Choose two.)
 - A. The driver is corrupted and needs to be updated/replaced.
 - B. The ribbon cable connecting the keyboard to the motherboard is partially disconnected and needs to be reseated.
 - C. The operating system needs to be reinstalled.
 - D. There is debris under the keys.
9. You're working as the IT support person at an accounting firm. One of the accountants dropped their laptop, and the number 5 key is broke-off. This is a critical problem for an accountant. What is the most cost-effective way to get them up and running again?
 - A. Replace the laptop with a new one.
 - B. Replace the entire laptop keyboard.
 - C. Replace the missing key.
 - D. Give them a desktop computer to use.
10. Your client is frustrated that their Bluetooth earpiece, which was working yesterday, is no longer working, and they've asked for your help. What is the most likely source of the problem?
 - A. The earpiece has paired to a different device.
 - B. The earpiece is broken.
 - C. The Wi-Fi signal is weak.
 - D. Bluetooth connectivity was lost.

11. Your boss has asked you to maximize the RAM in their laptop computer. You check the specifications and discover that the maximum system RAM is 32 GB of DDR5 RAM. The laptop currently has 16 GB of onboard RAM and one empty slot. Which of the following RAM modules should you purchase?
 - A. One 16 GB SODIMM
 - B. One 32 GB SODIMM
 - C. One 16 GB DIMM
 - D. One 32 GB DIMM

12. A friend is trying to install an update on their iPad, but they're receiving a message about insufficient space. They want to know if you can upgrade their storage. What will you tell them?
 - A. Sure, bring it over later today.
 - B. Storage can't be upgraded. You'll need to buy a new iPad.
 - C. Storage can't be upgraded, but you might be able to offload some apps that you no longer use.
 - D. Just purchase more space on iCloud; it's the same thing.

13. You need to replace a failed Serial Advanced Technology Attachment (SATA) hard drive on a 10-year-old laptop. The user has asked that the new drive be as fast as possible, regardless of disk space or cost. What type of drive should you install?
 - A. SSD
 - B. Magnetic
 - C. Hybrid
 - D. HDD

14. You need to replace a failed hard drive in a user's laptop, and it's a model with which you are unfamiliar. You look at the bottom of the laptop and see no obvious entrance points. Which component will you most likely need to remove to access the hard drive bay?
 - A. Wi-Fi card
 - B. Battery
 - C. System board
 - D. Keyboard

15. Which mobile connection type enables you to share your cellular Internet connection with a Wi-Fi-enabled device?
 - A. Hotspot
 - B. NFC
 - C. Bluetooth
 - D. RFID

16. Which cellular communication technology is known as LTE?
- A. Wi-Fi 6
 - B. 3G
 - C. 4G
 - D. 5G
17. Your friend wants to be able to use their phone to pay for purchases at a popular coffee shop. They noticed that the phone needs to be about 4 inches from the coffee shop's reader. What radio-wave communication type do you need to configure for your friend?
- A. NFC
 - B. Wi-Fi
 - C. Hotspot
 - D. Bluetooth
18. You're working from a home office and need to be able to type on your keyboard while talking with clients, so you purchase a wireless headset. What wireless technology will you need to enable on your laptop, to ensure that the headset and laptop can communicate with each other?
- A. Wi-Fi
 - B. Hotspot
 - C. Bluetooth
 - D. NFC
19. You are wearing your smartwatch, which enables you to make payments as you would when using a credit or debit card. What type of connection technology does this service use?
- A. Bluetooth
 - B. NFC
 - C. Wi-Fi
 - D. Hotspot
20. You're upgrading the Wi-Fi card in a manager's laptop and notice that the antenna cable is frayed, so you need to replace it. What will you likely need to do to replace the antenna?
- A. Wrap the antenna with electrical tape.
 - B. Open the display to replace the cable.
 - C. Attach a dongle for the new cable.
 - D. Just install the new card, because the antenna is part of the card.
21. Your boss has asked you to make sure that each of the company's laptops has a biometric scanner as an extra measure of security. Which of the following are biometric device technologies that are commonly found and can be configured on laptops? (Choose two.)
- A. ID card scanner
 - B. Face ID

- C. Fingerprint reader
 - D. Retina scanner
22. Your company is producing posters for an upcoming public relations campaign. The project leader wants to embed information into an NFC Type 4 tag in the poster. How much information can this tag hold?
- A. 16 KB
 - B. 32 KB
 - C. 1.4 MB
 - D. 2.4 MB
23. Your customer has an iPhone 8 and wants to read and write NFC tags with it. What advice will you give them? (Choose two.)
- A. Their iPhone will only work with Apple Pay.
 - B. They need to upgrade to an iPhone X to write NFC tags.
 - C. With iOS 13 or better on their device, they'll be able to read and write NFC tags using a third-party app.
 - D. iPhone 12 and iPhone 13 can read NFC tags simply by holding the phone over the tag.
24. You've been asked by the company president what can be done with NFC, in addition to paying for coffee. What will you tell them? (Choose three.)
- A. Securely share data with someone you're having lunch with.
 - B. Beam data to someone 10 feet away.
 - C. Transfer files, photos, and videos.
 - D. Add information or URLs to business cards, making it easier for customers to learn about your products or services.
25. Which two components of a laptop or other mobile device are the most useful when making a videoconference call? (Choose two.)
- A. Digitizer
 - B. Webcam
 - C. Microphone/speaker
 - D. Number pad
26. Of the following laptop components, which one is least likely to be built into the display?
- A. Wi-Fi antenna
 - B. Speakers
 - C. Webcam
 - D. Digitizer

- 27.** What types of networking will smart cameras most often have built into them? (Choose two.)
- A.** Bluetooth
 - B.** IrDA
 - C.** RJ-45
 - D.** Wi-Fi
- 28.** What component or characteristic on most mobile phones has its ability measured in megapixels?
- A.** Brightness
 - B.** Contrast
 - C.** Camera
 - D.** Digitizer
- 29.** One of your coworkers has purchased an external Bluetooth trackpad to use with their tablet. They've turned to you, the company IT person, to install and configure it for them. What actions do you need to take? (Choose two.)
- A.** Plug the device into the tablet's USB port.
 - B.** Install the trackpad's drivers.
 - C.** Put the device in pairing mode, open Settings > Bluetooth and Devices, and then tap the trackpad or choose Add Device.
 - D.** Go to Settings to configure the trackpad's speed and scrolling features.
- 30.** What type of connection are you using if you use a USB cable to connect your laptop to your cellphone to use the cellular wireless connection from the laptop?
- A.** Hotspot
 - B.** Tethering
 - C.** USB networking
 - D.** Phoning
- 31.** The company president misplaced their charging cable for their iPhone 14. You tell them it's no problem and then hand them a new one. What type of connector does this iPhone use for charging?
- A.** Thunderbolt
 - B.** Lightning
 - C.** ApplePower
 - D.** USB-C

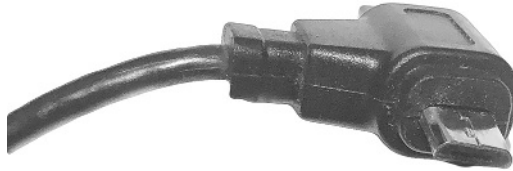
32. What type of mobile device connector is shown here?



- A. USB-C
 - B. Lightning
 - C. MicroUSB
 - D. Thunderbolt
33. Your significant other just purchased a new car and wants you to configure their cellphone to work through the car using voice commands. You must initiate pairing on the phone and choose to search for pairing devices on the car. What protocol is being used by the car and the device?
- A. 802.11a
 - B. Lightning
 - C. Bluetooth
 - D. Wi-Fi Enabled
34. A laptop user wants to have a full-sized display and keyboard as well as an external hard drive and speakers available to them at their desk. Which accessory can they purchase to avoid plugging each of these devices separately into their laptop every time they return to the desk? (Choose two.)
- A. KVM switch
 - B. Port replicator
 - C. Desktop station
 - D. Docking station
35. A user needs ports for external devices in addition to what their laptop has available. The user would like these devices to have connectivity with each other even when the laptop isn't there. Which of the following will provide that option?
- A. Docking station
 - B. Port replicator

- C. KVM switch
- D. Docking port

36. You've been handed a device to install. The cable looks like the one shown here. What type of connector does this device use?



- A. USB-C
- B. MiniUSB
- C. MicroUSB
- D. Thunderbolt 3

37. You're configuring a new laptop for a user. What devices can you plug into the port shown here? (Choose two.)



- A. Speaker
- B. Headset
- C. Webcam
- D. Stylus

- 38.** A technician has a failed Lenovo laptop and suspects the motherboard is bad. They have several other laptops available from which they can harvest parts. Which of the following statements is most likely true regarding the replacement motherboard that is selected?
- A.** The motherboard is not replaceable.
 - B.** Any laptop motherboard will work.
 - C.** A motherboard from any other Lenovo laptop will work.
 - D.** Only a motherboard from that same model of Lenovo laptop will work.
- 39.** You will be traveling to another country for work and will have a 10-hour airplane flight. You need to work on your laptop while flying, but your battery won't last that long. What should you have on hand to enable you to use the auxiliary power outlets on the airplane?
- A.** AC adapter
 - B.** DC adapter
 - C.** Power inverter
 - D.** Docking station
- 40.** The AC adapter for your laptop is not working properly, and you are searching for a replacement. Which two factors are most important when selecting a new AC adapter? (Choose two.)
- A.** Polarity
 - B.** Same wattage as the original
 - C.** Brand of the adapter
 - D.** Size of the adapter's transformer
- 41.** How do modern docking stations connect to laptops? (Choose two.)
- A.** USB 2
 - B.** USB-C
 - C.** Thunderbolt 3 or 4
 - D.** HDMI
- 42.** You have enabled the GPS service in your tablet. What is the minimum number of GPS satellites your tablet needs to be in contact with to determine its location?
- A.** One
 - B.** Two
 - C.** Three
 - D.** Four
- 43.** A technician needs to replace a failed laptop hard drive. Which of the following form factors could the laptop require? (Choose two.)
- A.** M.2
 - B.** 2.0-inch

- C. 2.5-inch
 - D. 3.5-inch
44. You were given an older laptop, which has 4 GB of system RAM and an integrated video card. The default setting specifies 512 MB of video memory. How much RAM is available for the processor to use?
- A. 4 GB
 - B. 3.5 GB
 - C. 3 GB
 - D. It's variable
45. Oculus, Samsung, and HTC are manufacturers of what specific type of wearable technology devices?
- A. Smart glasses
 - B. Smart headsets
 - C. Smart watches
 - D. VR/AR headsets
46. What type of connectors are the two shown in the center here?



- A. Lightning
 - B. Thunderbolt
 - C. DisplayPort
 - D. PCIe x 1
47. What type of device could use a Lightning connector to charge and transfer data?
- A. Samsung smartphone
 - B. Fitbit watch
 - C. Intel-based laptop
 - D. Apple iPhone
48. What is the likely type of Wi-Fi antenna connector you will find as an external connector on a laptop?
- A. SMA-female-RP
 - B. N-male
 - C. SMA-male-RP
 - D. N-female

49. After enabling your device for communication using the IEEE 802.15.1 standard, what is the next step?
- A. Enter the PIN code.
 - B. Find a device for pairing.
 - C. Enable pairing.
 - D. Open port 802.15.1.
50. You've enabled Bluetooth on your new headset and laptop, and enabled pairing on both. They have discovered each other, so what is the typical next step?
- A. Pressing and holding a Bluetooth button
 - B. Entering the Bluetooth password
 - C. Entering the Bluetooth PIN code
 - D. Exiting out of any running Bluetooth applications
51. What service is built into Apple-developed devices and permits users and subscribers to store documents, media, and contact information in a remote location?
- A. iStore
 - B. OneDrive
 - C. iCloud
 - D. CloudOnline
52. Which configuration settings are commonly used when setting up email from an online provider on a device?
- A. Active Directory domain name
 - B. Port and TLS settings
 - C. Email server name
 - D. Username and password
53. Which number that is a part of the GSM system is hardcoded into the phone and identifies your physical phone hardware to the cellular tower?
- A. PRI
 - B. IMSI
 - C. IMEI
 - D. MAC
54. Which unique component identifies you as a user and is coded into a phone by the user or service provider?
- A. IMSI
 - B. eSIM

- C. IMEI2
 - D. SIM
55. What best practice can save someone from losing data, such as calendar entries and contacts on their mobile device, if their device is lost?
- A. Synchronization
 - B. VPN
 - C. Encryption
 - D. Updating
56. A user wants their calendars to be readily available on multiple devices, including their laptop, desktop, and cellphone. What is the best option?
- A. Email appointments to self.
 - B. Send links to a URL-shortening service.
 - C. Synchronize calendars.
 - D. Synchronize bookmarks.
57. When two parents want to share appointment dates and times between their devices, what is their best option?
- A. Synchronize their calendars.
 - B. Share calendar passwords.
 - C. Text the calendar data to each other.
 - D. Email calendar invites to each other.
58. Your user needs to synchronize their contact list between their work computer and their smartphone. What Windows app is used to synchronize data between a user's mobile devices like smartphones and their desktop computers?
- A. MSync
 - B. ActiveSync
 - C. SyncTime
 - D. Timewarp
59. You're installing Bluetooth speakers in a conference room and just entered the PIN to connect the two devices. What is your next step?
- A. Enable pairing.
 - B. Search for the Bluetooth device.
 - C. Enable Bluetooth.
 - D. Test connectivity.

60. The owner of a company that provides transportation from an airport to various hotels wants to employ software that will tell them where every vehicle is at all times. All the vehicles use satellite-based navigation systems. What technology is most likely being used to track where they are?
- A. GPS
 - B. MDM
 - C. Cellular location services
 - D. MAM
61. You're going hiking this weekend in unfamiliar territory and have installed an application on your phone to show you where you are on the map in relation to the trails and surrounding areas. What two types of location technology might this app use? (Choose two.)
- A. GPS
 - B. MDM
 - C. Cellular location services
 - D. RFID
62. Your coworker wants to be able to use maps with their phone but is unhappy that other applications are also tracking their physical location. They ask for your help. Which of the following is *not* true?
- A. If location services are turned off for one application, they are turned off for all applications.
 - B. When you're installing an application, most likely it will ask you when it is allowed to use location services.
 - C. Some applications won't work without location services.
 - D. You can turn location services on or off for applications in the settings of your device.
63. You're at home bingeing on a popular Internet movie service and suddenly notice that the spinning wheel is showing up often, taking more time to download the movie than normal. What is likely the problem?
- A. Your router needs to be reset.
 - B. You have reached your data cap.
 - C. Your laptop is overheating.
 - D. The service is overwhelmed with requests.
64. The executives at your company are concerned about employees using their personal devices for work. They worry that someone may leave and take proprietary information with them. You calm their fears by telling them that there are settings in place on the Bring Your Own Device (BYOD) policy that protect company data accessed by employees. What are those settings called? (Choose two.)
- A. MAM
 - B. MDM

- C. GSM
 - D. CDMA
65. Which cellular communication technology is projected to be able to reach transmission rates up to 20 Gbps?
- A. 3G
 - B. 4G
 - C. 5G
 - D. Wi-Fi 6
66. An employee will be using their own device to work on company projects while they are at home. What are your two most likely options for providing access to corporate applications? (Choose two.)
- A. Install a corporate-licensed copy on their device that is managed remotely by MDM or MAM software.
 - B. Purchase a single-user license for the software to install on their device.
 - C. Provide cloud access to the application.
 - D. Force them to use a corporate-owned device.

