

Practice Exam Questions



Certified Wireless Network Administrator



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CWNP

Exam CWNA-108

Certified Wireless Network Administrator

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[Total Questions: 60]

Question No : 1

What best describes WPA2 in relation to 802.11 wireless networks?

- A.** WPA2 is the standard that defines security for WLANs.
- B.** WPA2 is a certification created by the Wi-Fi Alliance that validates devices correctly implement CCMP/ AES.
- C.** WPA2 is the second version of WPA and it enhances security through the use of TKIP instead of WEP.
- D.** WPA2 is specified in the 802.11 standard as implementing CCMP/AES.

Answer: A

Question No : 2

You are tasked with performing a throughput test on the WLAN. The manager asks that you use open source tools to reduce costs. What open source tool is designed to perform a throughput test?

- A.** iPerf
- B.** PuTTY
- C.** IxChariot
- D.** Python

Answer: D

Question No : 3

In addition to coverage analysis results, what should be included in a post-deployment site survey report to ensure WLAN users experience acceptable performance?

- A.** WAN interface analysis results
- B.** Capacity analysis results
- C.** Application Layer protocol availability analysis results
- D.** Layer 4 protocol availability analysis results

Answer: B

Question No : 4

When an ACK frame is not received by the transmitting STA, what is assumed?

- A. The receiver processed the frame, but did not respond with an ACK frame because 802.11w is enabled
- B. The frame was correctly delivered
- C. The frame was not delivered and must be retransmitted
- D. The receiver is offline

Answer: C

Question No : 5

A WLAN is implemented using wireless controllers. The APs must locate the controllers when powered on and connected to the network. Which one of the following methods is commonly used to locate the controllers by the APs?

- A. NTP
- B. DHCP
- C. SNMP
- D. GRE

Answer: B

Question No : 6

What is the final step in an effective troubleshooting process?

- A. Disable the WLAN
- B. Verify the solution
- C. Notify the users of problem resolution
- D. Document the results

Answer: D

Question No : 7

What is the most effective method for testing roaming in relation to 802.11 VoIP handsets?

- A. Use a spectrum analyzer to monitor RF activity during a VoIP call.
- B. Use a protocol analyzer to capture the traffic generated when a laptop roams.
- C. Place a call with the handset and move around the facility to test quality during roaming.
- D. Use the built-in roaming monitor built into all VoIP handsets.

Answer: C

Question No : 8

Lynne runs a small hotel, and as a value added service for his customers he has implemented a Wi-Fi hot-spot. Lynne has read news articles about how hackers wait at hot-spots trying to take advantage of unsuspecting users. He wants to avoid this problem at his hotel.

What is an efficient and practical step that Lynne can take to decrease the likelihood of active attacks on his customers' wireless computers?

- A. Enable station-to-station traffic blocking by the access points in the hotel.
- B. Implement Network Access Control (NAC) and require antivirus and firewall software along with OS patches.
- C. Implement an SSL VPN in the WLAN controller that initiates after HTTPS login.
- D. Require EAP-FAST authentication and provide customers with a username/password on their receipt.

Answer: A

Question No : 9

Which IEEE 802.11 physical layer (PHY) specification includes support for and compatibility with both ERP and HR/DSSS?

- A. DSSS (802.11-Prime)
- B. OFDM (802.11a)
- C. HT (802.11n)
- D. VHT (802.11ac)

Answer: C

Question No : 10

You are troubleshooting a client issue on a Windows laptop. The laptop can see and connect to 2.4 GHz APs, but it does not even see 5 GHz APs. While evaluating the issue, you determine that this problem is happening for all of the laptops of this model in the organization. Several other tablets connect on channel 48 and channel 52 in the same work areas. What is the likely problem?

- A. The clients are configured to use WPA and 5 GHz channels only support WPA2.
- B. The client drivers are faulty and should be upgraded.
- C. The antennas in the laptop have insufficient gain to detect the 5 GHz signals.
- D. The access points are configured to disallow 5 GHz.

Answer: C

Question No : 11

The requirements for a WLAN you are installing state that it must support unidirectional delays of less than 150 ms and the signal strength at all receivers can be no lower than -67 dBm. What application is likely used that demands these requirements?

- A. VoIP
- B. E-Mail
- C. FTP
- D. RTLS

Answer: A

Question No : 12

What wireless networking term describes the increase of RF energy in an intentional direction with the use of an antenna?

- A. Directed Radiation
- B. Beam Divergence
- C. Passive Gain

D. Active Amplification

Answer: C

Question No : 13

What is appended to the end of each 802.11 data frame after the payload?

- A. Preamble**
- B. MAC header**
- C. PHY header**
- D. FCS**

Answer: D

Question No : 14

You are deploying a WLAN with the access points configured for 10 mW of output power on the 2.4 GHz radios and 20 mW of output power on the 5GHz radios. Some semi-directional antennas are also in use. What kind of deployment is described?

- A. SOHO**
- B. Residential**
- C. High density**
- D. Standard office**

Answer: A

Question No : 15

An IEEE 802.11 amendment is in the draft state. What impact does this draft amendment have on the 802.11 standard?

- A. Devices will be released based on the draft amendment and the draft amendment features are part of the standard.**
- B. No impact: Until an amendment is ratified, it does not become part of the standard.**
- C. No impact: Draft amendments do not become part of the standard until a working group**

is formed.

D. The standard is changed to reflect the new capabilities as soon as an amendment enters the draft stage.

Answer: B

Question No : 16

You are the network administrator for ABC Company. Your manager has recently attended a wireless security seminar. The seminar speaker taught that a wireless network could be hidden from potential intruders if you disabled the broadcasting of the SSID in Beacons and configured the access points not to respond to Probe Request frames that have a null SSID field.

Your manager suggests implementing these security practices. What response should you give to this suggestion?

- A.** Any 802.11 protocol analyzer can see the SSID in clear text in frames other than Beacons frames. This negates any security benefit of trying to hide the SSID in Beacons and Probe Response frames.
- B.** To improve security by hiding the SSID, the AP and client stations must both be configured to remove the SSID from association request and response frames. Most WLAN products support this.
- C.** Any tenants in the same building using advanced penetration testing tools will be able to obtain the SSID by exploiting WPA EAPOL-Key exchanges. This poses an additional risk of exposing the WPA key.
- D.** This security practice prevents manufacturers' client utilities from detecting the SSID. As a result, the SSID cannot be obtained by attackers, except through social engineering, guessing, or use of a WIPS.

Answer: A

Question No : 17

You are troubleshooting a client problem with a 2.4 GHz WLAN connection. The client is experiencing surprisingly low data rates during the work day. You analyze the workspace outside of business hours and detect a strong signal with a typical noise floor at the client location. During working hours, the user works with a laptop in the area and uses an external USB hard drive for continuous data access. The user also states that the laptop works as expected on her home network. The user working approximately 8 feet away from

this client experiences no problems.

Based on this information, what is the likely cause of the problem?

- A. The AP is overloaded during the work day
- B. The drivers in the laptop are corrupt
- C. The laptop has a failing wireless adapter
- D. The external hard drive is USB 3.0 and is causing a significant increase in the noise floor when in use

Answer: D

Question No : 18

You have received a report of poor wireless connections on the third floor of a building under your administration. Three individuals have reported the problem. Apparently, the connections are reporting a strong signal, but the users cannot access the Internet. With the problem identified, what is the next logical step in the troubleshooting process?

- A. Verify the solution
- B. Discover the scale of the problem
- C. Perform corrective actions
- D. Create a plan of action or escalate the problem

Answer: B

Question No : 19

The center frequency of channel 1 in the 2.4 GHz band is 2.412 GHz (2412 MHz). What is the center frequency of channel 4?

- A. 2.427
- B. 2.422
- C. 2.413
- D. 2.417

Answer: A

Question No : 20

A dual-band 802.11ac AP must be powered by PoE. As a class 4 device, what power level should be received at the AP?

- A. 30 W
- B. 12.95 W
- C. 25.5 W
- D. 15.4 W

Answer: C

Question No : 21

In a long-distance RF link, what statement about Fade Margin is true?

- A. A Fade Margin is unnecessary on a long-distance RF link if more than 80% of the first Fresnel zone is clear of obstructions.
- B. The Fade Margin is a measurement of signal loss through free space and is a function of frequency and distance.
- C. Fade Margin is an additional pad of signal strength designed into the RF system to compensate for unpredictable signal fading.
- D. The Fade Margin of a long-distance radio link should be equivalent to the receiver's low noise filter gain.

Answer: C

Question No : 22

You have been tasked with creating a wireless link between two buildings on a single campus. The link must support at least 150 Mbps data rates. What kind of WLAN technology role should you deploy?

- A. WPAN
- B. IBSS
- C. Wireless bridging
- D. Access BSS

Answer: C

Explanation: <https://www.wlanmall.com/what-is-a-wireless-bridge/>

Question No : 23

What can an impedance mismatch in the RF cables and connectors cause?

- A. Increased range of the RF signal
- B. Fewer MCS values in the MCS table
- C. Increased amplitude of the RF signal
- D. Excessive VSWR

Answer: D

Question No : 24

You manage a WLAN with 100 802.11ac access points. All access points are configured to use 80 MHz channels. In a particular BSS, only 40 MHz communications are seen. What is the likely cause of this behavior?

- A. All clients implement single spatial stream radios
- B. The clients are all 802.11n STAs or lower
- C. The AP is improperly configured to use only 40 MHz of the 80 MHz allocated bandwidth
- D. The short guard interval is also enabled

Answer: B

Explanation: <https://7signal.com/802-11ac-migration-part-2-whats-nobodys-telling-you-about-80mhz-and-160mhz-channel-bonding>

Question No : 25

Which directional antenna types are commonly used by indoor Wi-Fi devices in a MIMO multiple spatial stream implementation?

- A. Dipole and yagi
- B. Grid and sector
- C. Patch and panel
- D. Dish and grid

Answer: C

Question No : 26

You are implementing a VHT-capable AP. Which one of the following channels is available in the 802.11-2016 standard that was not available before the ratification of 802.11 ac?

- A. 56
- B. 161
- C. 153
- D. 144

Answer: D

Question No : 27

You are troubleshooting a problem with interference from a non-802.11 device. Given that the device is not a WLAN device, you cannot use a protocol analyzer and have chosen to use a spectrum analyzer. You want to view the signal from the interfering device over time to see the activity that is generating.

What common spectrum analyzer view should you use for this analysis?

- A. APs
- B. Waterfall/Spectrogram
- C. Real-time FFT
- D. Clients

Answer: B

Question No : 28

An 802.11-based network uses an AP and has several connecting clients. The clients include iPhones, iPads, laptops and one desktop. What WLAN use case is represented?

- A. Ad-hoc
- B. WPAN
- C. BSS
- D. IBSS

Answer: C

Question No : 29

What 802.11 network configuration would result in multiple stations broadcasting Beacon frames with the same BSSID but with different source addresses?

- A. Multiple APs have been loaded with the same configuration from an image file.
- B. A single AP supports multiple BSSs with different SSIDs.
- C. An IBSS is used instead of a BSS.
- D. An SCA network is in use.

Answer: C

Question No : 30

You are implementing a multi-AP WLAN and fast secure roaming is essential. Which one of the following methods is an IEEE 802.11 standard method for fast roaming?

- A. FT
- B. OKC
- C. Load balancing
- D. Band steering

Answer: A

Question No : 31

When implementing PoE, what role is played by a switch?

- A. PSE
- B. Midspan injector
- C. PD
- D. Power splitter

Answer: A

Question No : 32

You were previously onsite at XYZ's facility to conduct a pre-deployment RF site survey. The WLAN has been deployed according to your recommendations and you are onsite again to perform a post-deployment validation survey.

When performing this type of post-deployment RF site survey voice over Wi-Fi, what is an action that must be performed?

- A. Spectrum analysis to locate and identify RF interference sources.
- B. Frequency-band hopping analysis to detect improper RF channel implementations.
- C. Application analysis with an active phone call on an VoWiFi handset.
- D. Protocol analysis to discover channel use on neighboring APs.

Answer: C

Question No : 33

Your manager asked you to locate a solution that allows for centralized monitoring of WLAN performance over time. He wants a single pane of glass for administration and monitoring of the solution. What do you recommend?

- A. Laptop-based spectrum analyzers
- B. AP-based spectrum analysis
- C. Overlay WLAN monitoring solution
- D. Laptop-based protocol analyzers

Answer: C

Question No : 34

You are using a site survey tool for post-implementation validation. You have installed the appropriate adapter driver and imported a floor plan. Now, you want to take the next step in proper tool use. What must you do before gathering survey data after the floor plan is imported?

- A. Calibrate the floor plan
- B. Install WinPCAP
- C. Nothing, you can simply start capturing signal readings
- D. Install iPerf

Answer: A

Question No : 35

What ID is typically mapped to an AP's MAC address if a single BSS is implemented?

- A. SSID
- B. Device ID
- C. VLAN ID
- D. BSSID

Answer: D

Question No : 36

When a client station sends a broadcast probe request frame with a wildcard SSID, how do APs respond?

- A. Each AP responds in turn after preparing a probe response and winning contention.
- B. For each probe request frame, only one AP may reply with a probe response.
- C. Each AP checks with the DHCP server to see if it can respond and then acts accordingly.
- D. After waiting a SIFS, all APs reply at the same time with a probe response.

Answer: A

Question No : 37

You are performing a post-implementation validation survey. What basic tool can be used to easily locate areas of high co-channel interference?

- A. Throughput tester
- B. Laptop-based spectrum analyzer
- C. Access point spectrum analyzer
- D. Wi-Fi scanner

Answer: D

Question No : 38

What statement about the beamwidth of an RF antenna is true?

- A. Horizontal and vertical beamwidth are calculated at the points where the main lobe decreases power by 3 dB.
- B. The beamwidth patterns on an antenna polar chart indicate the point at which the RF signal stops propagating.
- C. When antenna gain is lower, the beamwidth is also lower in both the horizontal and vertical dimensions.
- D. Vertical beamwidth is displayed (in degrees) on the antenna's Azimuth chart.

Answer: A

Question No : 39

What security solution is deprecated in the 802.11 standard and should never be used in any modern WLAN deployment?

- A. Shared Key Authentication
- B. Open System Authentication
- C. CCMP
- D. AES

Answer: A

Question No : 40

Option 43 must be configured to allow access points to locate controllers. In what network service should this option be configured?

- A. DNS
- B. LDAP
- C. DHCP
- D. RADIUS

Answer: C

Question No : 41

A WLAN transmitter that emits a 50 mW signal is connected to a cable with 3 dB loss. If the cable is connected to an antenna with 9dBi gain, what is the EIRP at the antenna element?

- A. 26 dBm
- B. 13 dBm
- C. 23 dBm
- D. 10 dBm

Answer: C

Question No : 42

ABC Company is planning a point-to-multipoint outdoor bridge deployment with standalone (autonomous)

802.11 bridge units. 802.1X/EAP will be used for bridge authentication. A Linux-based RADIUS server will be used for authentication. What device in the bridge implementation acts as the 802.1X Authenticator?

- A. The Ethernet switch
- B. The RADIUS server

- C. All non-root bridges
- D. The root bridge

Answer: D

Question No : 43

In an 802.11 2.4 GHz system, what 22 MHz channels are considered non-overlapping?

- A. 7 and 11
- B. 2 and 8
- C. 1 and 5
- D. 4 and 6

Answer: B

Question No : 44

What statement describes the authorization component of a AAA implementation?

- A. Verifying that a user is who he says he is.
- B. Implementing a WIPS as a full-time monitoring solution to enforce policies.
- C. Granting access to specific network services or resources according to a user profile.
- D. Validating client device credentials against a database.

Answer: C

Question No : 45

What factor does not influence the distance at which an RF signal can be effectively received?

- A. Receiving station's radio sensitivity
- B. Receiving station's output power
- C. Transmitting station's output power
- D. Free Space Path Loss

Answer: A

Question No : 46

An RF signal sometimes bends as it passes through some material other than free space. What is the term that describes this behavior?

- A. Refraction
- B. Warping
- C. Scattering
- D. Reflection

Answer: A

Question No : 47

You are managing a wireless access point in autonomous mode using the Web based interface. You capture traffic during this management task and notice that you can see the HTML code of the Web pages used for access point management. What error in administration could be the cause of this security concern?

- A. IPsec is not in use of the management connection as recommended
- B. A VPN with the AP is not established
- C. WPA2 is disabled on the WLAN
- D. HTTP is in use instead of HTTPS

Answer: D

Question No : 48

What primary metric of scanning can stations use to select the best AP for connectivity to the desired BSS?

- A. Signal strength of AP beacons received.
- B. PING latency when testing against an Internet server.
- C. Throughput speed in Mbps.
- D. FCS errors in frames transmitted to and from the AP.

Answer: A

Question No : 49

What statement about the IEEE 802.11-2016 QoS facility is true?

- A.** 802.11 control frames are assigned to the 802.11 EF priority queue.
- B.** When the Voice queue has frames awaiting transmission, no data will be transmitted from the Best Effort queue.
- C.** 802.11 QoS is achieved by giving high priority queues a statistical advantage at winning contention.
- D.** Four 802.1p user priorities are mapped to eight 802.11 transmit queues.

Answer: C

Question No : 50

What factor is likely to cause the least impact on the application layer throughput of an 802.11n client station in a 2.4 GHz HT BSS?

- A.** Increasing or decreasing the number of spatial streams in use by the client station and AP
- B.** Implementing Fast BSS Transition (FT) for roaming
- C.** Implementation of several other clients in the same BSS using 802.11g radios
- D.** RF interference from more than 10 nearby Bluetooth transmitters

Answer: B

Question No : 51

What cipher suite is specified by the 802.11-2016 standard and is not deprecated?

- A.** Wired Equivalent Privacy
- B.** Temporal Key Integrity Protocol
- C.** Counter Mode with CBC-MAC Protocol
- D.** Extensible Authentication Protocol

Answer: C

Question No : 52

To ease user complexity, your company has implemented a single SSID for all employees. However, the network administrator needs a way to control the network resources that can be accessed by each employee based in their department.

What WLAN feature would allow the network administrator to accomplish this task?

- A. RBAC
- B. WPA2
- C. WIPS
- D. SNMP

Answer: A

Question No : 53

A client complains of low data rates on his computer. When you evaluate the situation, you see that the signal strength is -84 dBm and the noise floor is -96 dBm. The client is an 802.11ac client and connects to an 802.11ac AP. Both the client and AP are 2x2:2 devices. What is the likely cause of the low data rate issue?

- A. Weak signal strength
- B. CAT5e cabling run to the AP
- C. Too few spatial streams
- D. Lack of support for 802.11n

Answer: A

Question No : 54

When compared with legacy Power Save mode, how does VHT TXOP power save improve battery life for devices on a WLAN?

- A. Legacy Power Save mode was removed in the 802.11ac amendment.
- B. VHT TXOP power save allows the WLAN transceiver to disable more components when in a low power state.
- C. VHT TXOP power save uses the partial AID in the preamble to allow clients to identify frames targeted for them.
- D. VHT TXOP power save allows stations to enter sleep mode and legacy Power Save does not.

Answer: C

Question No : 55

What statement is true concerning the use of Orthogonal Frequency Division Multiplexing (OFDM) modulation method in IEEE 802.11 WLANs?

- A. OFDM implements BPSK modulation to allow for data rates up to 7 Gbps.
- B. OFDM was first introduced in 802.11a and is used by the ERP, HT and VHT PHYs as well.
- C. OFDM modulation is used only in 5 GHz 802.11 transmissions.
- D. OFDM was used by Frequency Hopping Spread Spectrum (FHSS) PHY devices.

Answer: B

Explanation: https://en.wikipedia.org/wiki/IEEE_802.11

Question No : 56

Which one of the following is not a factor considered when calculating the Link Budget for an outdoor point-to-point WLAN bridge link?

- A. Operating frequency
- B. MU-MIMO capabilities of the bridges
- C. Receive antenna gain
- D. Transmit power

Answer: B

Question No : 57

During a post-implementation survey, you have detected a non-802.11 wireless device transmitting in the area used by handheld 802.11g scanners. What is the most important factor in determining the impact of this non-802.11 device?

- A. Receive sensitivity
- B. Channel occupied
- C. Airtime utilization
- D. Protocols utilized

Answer: C

Explanation:

Airtime Utilization is a per-channel statistic that defines what percentage of the channel is currently being used, and what percentage is therefore free. Airtime usage can come from: Data traffic to and from client devices. Interference from WiFi and non-WiFi sources. Management overhead from APs and client devices.
<https://wyebot.com/2019/06/06/understanding-airtime-utilization/>

Question No : 58

You are reconfiguring an AP to use the short guard interval. How long will the new guard interval duration be after the change?

- A. 800 ns
- B. 400 ns
- C. 104 ms
- D. 10 ms

Answer: B

Question No : 59

What statement about 802.3, Clause 33 Power over Ethernet is true?

- A. When using CAT5 cabling, you increase the maximum draw available to the PD over that available with CAT6.
- B. Only endpoint PSEs are supported.
- C. Only midspan PSEs are supported.
- D. The lowest voltage drop is achieved when using CAT6 cable instead of Cat5 or CAT5e.

Answer: D

Explanation: <https://www.cablinginstall.com/articles/2012/08/cat-6a-vs-cat-5e-poe.html>

Question No : 60

A non-802.11 device is suspected of causing interference on the WLAN. You are not certain of the location or type of device. What is the best solution for locating this non-802.11 device?

- A. Access point spectrum analyzer
- B. Laptop-based spectrum analyzer with an omni-directional antenna
- C. Laptop-based spectrum analyzer with an omni-directional antenna
- D. Laptop-based spectrum analyzer with a directional antenna

Answer: D