

# CWDP-303.28q

Number: CWDP-303 Passing Score: 800 Time Limit: 120 min





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**Certified Wireless Design Professional** 

Exam A



#### **QUESTION 1**

What metric implements the simplest algorithm and lowest accuracy in networks requiring locations?

- A. Angle of Arrival (AoA)
- B. Time of Arrival (ToA)
- C. Time Difference of Arrival (TDoA)
- D. Received Signal Strength Indicator (RSSI)

Correct Answer: A Section: (none) Explanation

## **Explanation/Reference:**

Reference: https://www.ijert.org/research/different-approaches-of-angle-of-arrival-techniques-in-wireless-sensor-networks-IJERTV2IS2346.pdf

## **QUESTION 2**

Your customer is using PSK as their only authentication. They have an industry requirement to move to a stronger solution. Your recommendation is to move to a certificate-based type of authentication where both the client and server require certificates. Which EAP type would be the best fit?

- A. EAP-FAST
- B. EAP-TTLS
- C. EAP-TLS
- D. PEAP

Correct Answer: C Section: (none) Explanation

# **Explanation/Reference:**

Reference: <a href="https://www.intel.com/content/www/us/en/support/articles/000006999/network-and-i-o/wireless-networking.html">https://www.intel.com/content/www/us/en/support/articles/000006999/network-and-i-o/wireless-networking.html</a>

## **QUESTION 3**

A company wants to connect its headquarters to its remote office that is 13 kilometers away using a wireless bridge. What requirement must not be forgotten by their Wireless Engineer when considering the Fresnel Zone?





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- A. Earth bulge
- B. Antenna gain
- C. FSPL
- D. Receive sensitivity

Correct Answer: A Section: (none) Explanation



## **Explanation/Reference:**

Reference: http://www.zytrax.com/tech/wireless/fresnel.htm

#### **QUESTION 4**

A business traveler from North America is in Europe. The hotel only provides coverage in 2.4 GHz. The traveler connects to the hotel's SSID and notices an AP in the hotel room. However, the laptop reports a very low RSSI when connected. The traveler does not have the same problem when connecting in the lobby. What would be the most likely cause of the low RSSI in the hotel room?

- A. The AP in the room is using ZigBee instead of Wi-Fi.
- B. The AP in the room is transmitting on channel 13 and the traveler associated to a non-channel 13 AP located elsewhere.
- C. The switchport that the AP is connected to is only capable of transmitting at 10 Mbps.
- D. The AP in the room is using Bluetooth instead of Wi-Fi.

Correct Answer: C Section: (none) Explanation

# Explanation/Reference:



#### **QUESTION 5**

A museum wants to offer Wi-Fi to its visitors. One of their requirements is to have the APs blend into the design of the museum. What should you do to meet this requirement?

- A. Lock the AP inside of a metal box
- B. Place the APs in between walls and I-beams
- C. Use an 802.11b AP, so it looks old enough to be in a museum
- D. Use a plastic cover that could blend in with the environment

Correct Answer: D Section: (none) Explanation

## **Explanation/Reference:**

Reference: https://www.webmasterworld.com/webmaster hardware/4263823.htm

### **QUESTION 6**

After importing a floor plan to a predictive design tool, what should be done prior to adding APs, antennas and attenuators (e.g., walls)?

- A. Set the transmit power for all APs
- B. Add pictures of the environment
- C. Nothing; just begin by adding APs, antenna and attenuators
- D. Calibrate the floor plan to increase accuracy

Correct Answer: D Section: (none) Explanation

# **Explanation/Reference:**

#### **QUESTION 7**

Your customer's 802.11n laptops are not able to see the SSID in the 5 GHz band in the conference room. When doing a walkthrough using one of these laptops, you confirm that it is unable to see the SSID in the 5 GHz band in the conference room. When using your own 802.11 ac laptop, you're able to see the SSID. What is the most likely cause of this problem?

- A. The AP is configured to use channel 36
- B. The customer laptop does not support Transmit Beamforming





C. The AP is on channel 144

D. Their laptops are SISO clients

Correct Answer: B Section: (none) Explanation

## **Explanation/Reference:**

#### **QUESTION 8**

When designing a static channel plan for an office using voice devices near an airport, which range of channels should be avoided to ensure optimal performance when implemented?

A. 36-40

B. 44-48

C. 116-124

D. 1-11

Correct Answer: C Section: (none) Explanation



# **Explanation/Reference:**

## **QUESTION 9**

What is the most suitable antenna option to be used when designing a WLAN infrastructure with APs mounted on a ceiling with a height of more than 20 feet and having all of the client stations used from the floor?

A. Patch

B. Dish

C. Grid

D. Low-gain dipole

Correct Answer: C Section: (none) Explanation



# **Explanation/Reference:**

#### **QUESTION 10**

Switches and APs have already been chosen by your customer. All switches support 802.3bz MultiGig interfaces and APs are 4x4:4 802.11ac wave 2 capable of using dual-5GHz and have one MultiGig interface. Some cable drops for the APs will run for more than 180.5 feet (or 55 meters). To support MultiGig, what is the best choice of cabling?

A. Cat-5

B. Cat-6

C. Cat-5e

D. Cat-6a

Correct Answer: C Section: (none) Explanation

# **Explanation/Reference:**



### **QUESTION 11**

When surveying an existing WLAN infrastructure for a possible redesign, you use two Wi-Fi USB adapters to collect RSSI data and two USB spectrum analysis adapters to collect RF spectrum data. Since your laptop doesn't have enough USB ports, you use a 4-port powered USB 3.0 hub. What issues could be caused by the use of USB 3.0 that will impact your site survey?

- A. It does not give you enough bandwidth to collect data coming from all of the adapters.
- B. It does not give you enough power for all four of your adapters.
- C. It generates noise in the 2.4 GHz band, giving you a false perception of the noise floor.
- D. It generates noise in the 5 GHz band, giving you a false perception of the noise floor.

Correct Answer: C Section: (none) Explanation

## **Explanation/Reference:**

 $Reference: \underline{https://support.ekahau.com/hc/en-us/articles/235437007-USB-3-0-Causing-High-Noise-Floor-and-Its-Impact-on-Site-Surveys}\\$ 

#### **QUESTION 12**



What is the most cost-effective way to accurately measure the height of a ceiling when ladder use is not allowed?

- A. Estimate the height based on known object sizes
- B. Gather measurements from other objects and do the math
- C. Rent a lift-cart to lift you up to the ceiling
- D. Use a laser measure to measure the distance from the floor to the ceiling

Correct Answer: D Section: (none) Explanation

## **Explanation/Reference:**

#### **QUESTION 13**

You performed a site survey with two USB Wi-Fi adapters using a special driver written for the site survey software. After deployment, you realized that the client devices used by your customer are getting lower RSSI values than that shown during your site survey. What is the most likely reason for this result?

- A. USB Wi-Fi adapters designed for site surveys may have better sensitivity than regular Wi-Fi cards installed in client devices.
- B. The transmit power on the APs is higher than needed.
- C. Regular Wi-Fi cards installed in client devices do not support the same protocols as survey adapters.
- D. USB Wi-Fi adapters have a greater sensitivity than internal Wi-Fi adapters.

Correct Answer: A Section: (none) Explanation

## **Explanation/Reference:**

## **QUESTION 14**

When performing an active site survey in an existing WLAN infrastructure, in addition to gathering throughput data, what other important function will you typically be testing at the same time?

- A. Application filtering
- B. Internet bandwidth
- C. Roaming
- D. ACL configuration



Correct Answer: C Section: (none) Explanation

## **Explanation/Reference:**

## **QUESTION 15**

Why should band steering algorithms allow stations to connect to the 2.4 GHz band after some number of ignored Probe Requests?

- A. Because the FCC requires it.
- B. Because some clients are persistent clients that will not move on to the 5 GHz band.
- C. Because the 802.11 standard requires it.
- D. Because the AP will experience a buffer overflow if they do not eventually respond with a Probe Response.

Correct Answer: B Section: (none) Explanation

# **Explanation/Reference:**

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#### **QUESTION 16**

What limitation exists when WMM is not enabled on an 802.11n WLAN?

- A. 802.11 QoS will not be available
- B. The maximum channel-width will be 20MHz
- C. EDCA values will change
- D. Only two ACs will be available

Correct Answer: A Section: (none) Explanation

# **Explanation/Reference:**

Reference: <a href="https://mrncciew.com/2013/07/30/wmm-qos-profile/">https://mrncciew.com/2013/07/30/wmm-qos-profile/</a>

## **QUESTION 17**

Using a SCA means that all APs will be using the same channel in a given layer. How is the AP with which the client associates determined?



- A. All APs share a virtual IP address. A controller will tell the closest AP to the client to communicate with it, since it has a greater RSSI from the client.
- B. All APs share a virtual Multicast Address. A controller will tell the closest AP to the client to communicate with it, since it has a greater RSSI from the client.
- C. All APs share a virtual BSSID. A controller will tell the closest AP to the client to communicate with it, since it has a greater RSSI from the client.
- D. The client selects the AP based on a known set of MAC to BSSID mappings stored in the clients authorized SSID listing.

Correct Answer: D Section: (none) Explanation

# **Explanation/Reference:**

## **QUESTION 18**

What service must be implemented on your customers' network to authenticate users against an LDAP database prior to access to the WLAN infrastructure being granted?



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- A. NTP
- B. RADIUS
- C. SFTP
- D. TLS

Correct Answer: B Section: (none) Explanation

# **Explanation/Reference:**

Reference: https://www.cisco.com/c/en/us/td/docs/wireless/controller/8-5/config-guide/b\_cg85/wlan\_security.pdf

**QUESTION 19** 



What is the best method of gathering attenuation measurements from any building materials or objects?

A. After measuring the RSSI in free space 5 meters (16.5 feet) apart, put an AP 4 meters (13 feet) away from the wall or object on one side and your measuring device 0.67 meters (2 feet) away from the wall or object on the other side. Take measurement and compare the difference. B. Use the pre-built attenuation values in the predictive design tool.

- C. After measuring the RSSI in free space 1 meter (3 feet) apart, put an AP 0.32 meters (1 feet) away from the wall or object on the other side. Take measurements and compare the difference.
- D. Look on the Internet for attenuation values for each one of the materials that might attenuate the Wi-Fi signal using the material provider's websites.

Correct Answer: C Section: (none) Explanation

## **Explanation/Reference:**

#### **QUESTION 20**

Which type of authentication and encryption method is mandatory for Voice Enterprise certified devices as specified by the Wi-Fi Alliance?

- A. WPA2/AES Personal
- B. WPA2/TKIP Enterprise
- C. WPA2/AES Enterprise
- D. WPA/TKIP Personal

Correct Answer: A Section: (none) Explanation

## **Explanation/Reference:**

## **QUESTION 21**

What document should be created that provides instructions for install technicians to mount and configure APs?

- A. Hold Harmless
- B. Statement of Work
- C. Bill of Materials
- D. Physical installation guide





Correct Answer: D Section: (none) Explanation

# **Explanation/Reference:**

## **QUESTION 22**

In addition to a copy of your design, which tools should you use to ensure the installation team deploys APs where you have them designed to be located?

- A. GPS and a map
- B. RF spectrum analyzer and packet capturing software
- C. Ladder and a pen
- D. Camera and marking tools

Correct Answer: A Section: (none) Explanation

# **Explanation/Reference:**



## **QUESTION 23**

When installing APs on high ceilings, what should be the most common PPE to be used?

- A. Hardhat, high visibility vest and body belt
- B. Glasses, gloves and jacket
- C. Clean suits, masks and glasses
- D. Clean suits, gloves and jacket

Correct Answer: A Section: (none) Explanation

# **Explanation/Reference:**

## **QUESTION 24**

In what circumstance would you not enable DFS channels on a WLAN infrastructure?



- A. In any stadium
- B. In any office complex
- C. In an airport
- D. In any home office

Correct Answer: C Section: (none) Explanation

# **Explanation/Reference:**

Reference: https://netbeez.net/blog/dfs-channels-wifi/

## **QUESTION 25**

Aesthetics are very important in some environments. What common installation technique can be used to best meet this requirement in a stadium?

- A. Painting to match team colors
- B. Using enclosures under the seats or on hand-rails
- C. Mounting on a non-fixed pole
- D. Mounting on the walls

Correct Answer: A Section: (none) Explanation



# Explanation/Reference:

#### **QUESTION 26**

When doing some frame capturing over the air during a voice call, you realized that frames on the downlink (from the AP to the client) direction are not being transmitted with the correct UP value for voice frames, but on the uplink (from the client to the AP) direction are being transmitted correctly. What's the cause of this issue?

- A. Bad client driver
- B. AP is not receiving enough PoE, thus not using QoS features
- C. Somewhere on the wired network QoS markings aren't being trusted
- D. Faulty antenna on the AP

Correct Answer: B



Section: (none) Explanation

# Explanation/Reference:

## **QUESTION 27**

You are validating association capabilities from clients to an 802.1X/EAP secure SSID. The RADIUS server's IP address is 10.100.50.25 and the default RADIUS authentication port is used. When testing them, none of the clients are able to associate to the SSID. Troubleshooting the WLAN infrastructure, you found out that the server is up and the RADIUS service is up as well, but the authenticator is not able to communicate properly with the server. What's your next troubleshooting step?

- A. Verify that the shared secret between the authenticator and the RADIUS server is correct
- B. Reboot the clients
- C. Reboot the server
- D. Restart the RADIUS service

Correct Answer: A Section: (none) Explanation

**Explanation/Reference:** 



#### **QUESTION 28**

After deploying a 5 GHz-only WLAN infrastructure in the USA, using 20 MHz channel-widths and all 25 available channels, one of the managers of the company brings his 802.11n tablet to the office to test the Guest SSID. While testing, there were several spots where we would get poor RSSI (below -80dBM) or none at all. You checked the WLAN infrastructure and all APs are up and running and you've validated coverage after deployment. What is causing this issue?

- A. His tablet doesn't support the 5 GHz band
- B. His tablet only supports a 40 MHz channel-width
- C. His tablet does not support one or more of the 5 GHz channels
- D. His tablet doesn't support MU-MIMO

Correct Answer: D Section: (none) Explanation

**Explanation/Reference:** 





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