

CWNP

Exam CWNA-106

Certified Wireless Network Administrator

Version: 6.0

[Total Questions: 120]

Question No : 1

During the discovery and connectivity process, client and AP stations exchange information about their supported data rates. After the association, how do client and AP stations select the supported data rate that will be used to send an 802.11 data frame?

- A. During the association, the client and AP agree to use the same transmit rate, but either station can request a change at any time after the association.
- B. The client and AP each choose the optimal data rate to use independently of one another, based on their own measurements related to the RF link.
- C. The client and AP may use different transmit rates, but the AP determines the data rate that will be used by each client station in the BSS.
- D. The client and AP may use different transmit rates, but the client determines the data rate that it will use and the data rate that the AP will use when communicating to the client.
- E. The client and AP may use a different transmit rates, but the transmit rate is determined by the peer station, based on the peer's experience of the RF link.

Answer: B

Question No : 2

As you prepare for a site survey in a multi-floor corporate office, you have learned about several wireless devices that support connection-oriented, real-time applications. These applications are sensitive to service interruptions and require excellent signal quality, low latency, and low loss. For that reason, it is important to identify sources of RF interference as well as building characteristics that would cause RF blockage or dead spots.

What systems or environmental characteristics are most likely to cause interference or RF blockage and disrupt service for these applications? (Choose 2)

- A. Microwave ovens
- B. Narrow hallways
- C. Elevator shafts
- D. RFID chokepoints
- E. Workspace dividers

Answer: A,C

Question No : 3

What advantages does using predictive site survey modeling software offer over performing a manual site survey? (Choose 2)

- A. Predictive modeling software can predict the ideal access point location 100% of the time, whereas the results from manual surveying are less reliable.
- B. Predictive modeling software makes it simple to assess multiple different AP locations and then adjust and display the AP's expected coverage pattern in almost real-time.
- C. Predictive modeling software provides more reliable data than manual surveys when fine-tuning and validating access point placement after the installation.
- D. The exact impact of interference sources from external networks can be more accurately measured when using predictive modeling software than with manual surveys.
- E. It takes less time to create an initial site survey for a large facility when using predictive modeling software than when performing a manual survey.

Answer: B,E

Question No : 4

What statements accurately describe the RF cables and connectors that are used in an 802.11 WLAN system? (Choose 3)

- A. RF cables have upper and lower frequency range specifications.
- B. 75 and 125 ohms are the typical impedances of 802.11 WLAN connectors.
- C. Two RF connectors of the same type (e.g. SMA), manufactured by different companies, may vary in specifications.
- D. Every RF connector causes insertion loss.
- E. Large diameter RF cables cause greater loss than small diameter cables.

Answer: A,C,D

Question No : 5

What statements about the beamwidth of an RF antenna are true? (Choose 2)

- A. The lower the gain of an antenna, the more narrow one or both beamwidths become.
- B. The beamwidth patterns on an antenna polar chart indicate the point at which the RF signal stops propagating.

- C. Horizontal and vertical beamwidth are calculated at the points in which the main lobe decreases power by 3 dB.
- D. Horizontal beamwidth is displayed (in degrees) on the antenna's Azimuth Chart.

Answer: C,D

Question No : 6

For what likely reasons might an organization choose to purchase an AP designed for outdoor deployment to use as an indoor WLAN AP at an industrial facility? (Choose 2)

- A. Aesthetic requirements
- B. Physical security and theft prevention
- C. Protection from environmental conditions
- D. Reduce transient RF interference
- E. 802.11 security compliance

Answer: B,C

Question No : 7

What three cipher suites are specified by the IEEE 802.11-2012 standard? (Choose 3)

- A. Counter Mode with CBC-MAC Protocol
- B. Wi-Fi Protected Access v1 and v2
- C. Internet Protocol Security
- D. Extensible Authentication Protocol
- E. GCM with Galois Message Authentication Code (GMAC) Protocol
- F. Wired Equivalent Privacy
- G. Temporal Key Integrity Protocol

Answer: A,F,G

Question No : 8

What factors are likely to cause the greatest impact on the application layer throughput of

an 802.11n client station in a 2.4 GHz HT BSS? (Choose 3)

- A. Use of WEP or TKIP for encryption instead of CCMP
- B. Use of passphrase authentication instead of 802.1X/EAP authentication
- C. Increasing the beacon interval from 100 to 200 (TUs)
- D. RF interference from more than 10 nearby Bluetooth transmitters
- E. Increasing or decreasing the number of spatial streams in use by the client station and AP

Answer: A,D,E

Question No : 9

What statement about the IEEE 802.11e QoS facility is true?

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

Answer: A

Question No : 10

As XYZ Company's wireless specialist, you have been asked to troubleshoot some unexpected frame patterns in a wireless protocol capture. Your peers explain that the network's beacon frames are inconsistent. That is, the BSSID is the same for all beacons, but the source address varies between three different addresses.

What network configuration would cause this beacon frame behavior?

- A. A single AP supports multiple BSSs with different SSIDs
- B. A virtual cell single channel network has been implemented

- C. The beacons are from an IBSS instead of a BSS
- D. Three APs still share the same default configuration.

Answer: C

Question No : 11

What item is essential for performing a manual RF site survey for a warehouse facility?

- A. A facility map with an explanation of applications used in each area
- B. I-Beam mounting kits for hanging temporary access points
- C. Low-gain omni antennas for APs mounted high on warehouse ceilings
- D. Predictive site survey software that supports highly directional antennas
- E. NEMA enclosures that protect APs used for the survey

Answer: A

Question No : 12

What statements about the SSID are true? (Choose 2)

- A. The SSID is a security session identifier used in RSNs.
- B. The SSID must be included in an association request frame.
- C. The SSID is an alphanumeric value assigned to device manufacturers by the IEEE.
- D. The SSID is a pseudo-random number assigned to each client by an AP.
- E. The SSID is an alphanumeric value with a maximum length of 32 octets.
- F. When configuring a new network, creating an SSID is optional.

Answer: B,E

Question No : 13

What is an advantage of using WPA2-Personal instead of WEP-128 as a security solution for 802.11 networks?

- A. WPA2-Personal uses 802.1X/EAP for authentication, and WEP-128 uses preshared keys.
- B. WPA2-Personal is based on IEEE 802.11 industry standards, but WEP is not.
- C. WPA2-Personal uses CCMP for encryption, and WEP-128 uses TKIP for encryption.
- D. WPA2-Personal uses dynamic encryption keys, and WEP-128 uses static keys.
- E. WPA2-Personal requires complex 64-character hex keys, whereas WEP-128 requires weak 26-character hex keys.

Answer: D

Question No : 14

Two co-located 802.11b/g/n APs can interfere with one another and cause contention and collisions, even when the two APs are operating on non-overlapping channels (e.g. 1 & 6).

What deployment flaw could cause this problem? (Choose 2)

- A. The access points are mounted too closely to one another.
- B. Reflective objects in the area are causing significant multipath.
- C. A client station is using active scanning to probe for access points on multiple channels.
- D. The output power on the access points is too high.
- E. A client station authenticates to both access points, but does not associate.
- F. The access points are not synchronized to the same NTP server.

Answer: A,D

Question No : 15

What are two channel modes specified by the 802.11n (High Throughput) PHY? (Choose 2)

- A. 20 MHz
- B. 20/40 MHz
- C. 40/80 MHz
- D. 22 MHz
- E. 80 MHz
- F. 160 MHz

Answer: A,B

Question No : 16

ABC Company has thousands of Wi-Fi users accessing their network on a daily basis. Their WLAN consists of 700 access points, 6 WLAN controllers, and a wireless network management system.

What network functions are performed by the enterprise-class WNMS? (Choose 3)

- A. RF pre-deployment planning and post-deployment reporting of access point locations on a floor plan
- B. Performance and security monitoring of WLAN controllers with alarms and notifications for administrative staff
- C. Radio management, fast roaming, key caching, and other centralized control plane operations
- D. Centralized bridging of guest data traffic and application of firewall and QoS policies to data
- E. Management of WLAN controller configuration and provisioning of firmware updates
- F. Generating, encrypting, and decrypting 802.11 frames and collecting RF radio data.

Answer: A,B,E

Question No : 17

As a consultant, you have been hired by ABC Company to implement an outdoor WLAN connection between two buildings that are 2 kilometers (1.24 miles) from each other, with no obstructions in between.

Your first required objective is to create a point-to-point link between the two buildings within the local regulatory body's 800 mW EIRP maximum.

Your second required objective is to provide an industry-standard security solution capable of supporting mutual authentication.

As an optional objective, you must minimize the amount of interference from, and to, nearby WLAN networks.

You install an OFDM wireless bridge at each building, configuring one in root mode and the other in non-root mode. You set each radio for 100 mW (20 dBm) and attach 9 dBi omni-directional antennas to both. You configure the network for WPA2-Enterprise with PEAPv0/EAP-MSCHAPv2 authentication.

Which statement is true about the solution you chose to deploy?

- A. Your solution meets both required objectives and the optional objective.
- B. Your solution meets the first required objective and the optional objective, but not the second objective.
- C. Your solution meets the second required objective and the optional objective, but not the first required objective.
- D. Your solution meets neither required objective but meets the optional objective.
- E. Your solution meets both required objectives, but does not meet the optional objective.
- F. Your solution does not meet either required objective, or the optional objective.

Answer: E

Question No : 18

What features are most often configurable within 802.11 WLAN client utilities? (Choose 2)

- A. Frame generator utility
- B. Power management
- C. Co-channel interference threshold
- D. Roaming aggressiveness
- E. AES key and block size

Answer: B,D

Question No : 19

What can cause an excessively high VSWR (Voltage Standing Wave Ratio) in a WLAN RF transmission line?

- A. An impedance mismatch in the RF cables and connectors
- B. Reflected direct current (DC) voltage on the main RF signal line
- C. Attenuation of the RF signal as it travels along the main signal path
- D. Crosstalk (inductance) between adjacent RF conductors

Answer: A

Question No : 20

What feature(s) are most likely to be supported by 802.11 enterprise-class WLAN controllers? (Choose 4)

- A. Link aggregation / port trunking
- B. 802.1p and DSCP QoS
- C. BGP and Frame Relay
- D. Captive web portals
- E. IGMP snooping

Answer: A,B,D,E

Question No : 21

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 RADIUS server
- B. All non-root bridges
- C. A designated non-root bridge
- D. The root bridge
- E. The Ethernet switch

Answer: D

Question No : 22

The network administrator at XYZ Company recently attended a training class on wireless security and realized that he should update the corporate security policy to address WLAN technology. The network administrator is listing the items that should be addressed in the security policy update, and has asked for your input.

What WLAN topics should be addressed by a company security policy? (Choose 3)