PassQueen
a.k.a dumpsqueen.com

Designing Cisco Wireless Networks (300-110 WLSD) v1.2

Cisco 300-110

Version Demo

Total Demo Questions: 11

Total Premium Questions: 112

Buy Premium PDF

https://passqueen.com

support@passqueen.com

Topic Break Down

Topic	No. of Questions
Topic 1, Design a WLAN	33
Topic 2, Design a WLAN Infrastructure	33
Topic 3, Design WLAN Security	1
Topic 4, Design WLAN Network Management	5
Topic 5, Design WLAN for Mobility	35
Topic 6, Mix Questions	5
Total	112

QUESTION NO: 1

A wireless engineer is designing an 802.1X voice WLAN for handheld devices that roam frequently between APs. The devices support IEEE 802.11k and 802.11r. The design must reduce both channel-scanning time and authentication delay during a roam. Which two features should be enabled? (Choose two.)

A. Enable 802.11k radio resource management.

B. Enable 802.11v BSS Transition Management.

C. Enable 802.11r Fast Transition with 802.1X.

D. Enable Cisco Centralized Key Management.

E. Enable Coverage Hole Detection.

ANSWER: A C

Explanation:

802.11k radio resource management and **802.11r Fast Transition with 802.1X** address separate sources of roaming delay. IEEE 802.11k supplies neighbor-report information that helps capable clients identify suitable nearby APs without performing an extensive scan of every channel.

IEEE 802.11r FT with 802.1X reduces the security-authentication delay by allowing the client and wireless infrastructure to prepare keying information for the fast transition process. 802.11v can provide roaming recommendations, but it does not itself provide fast authentication or neighbor reports. CCKM is a Cisco fast-roaming method, whereas the requirement specifies client support for the IEEE 802.11r standard.

QUESTION NO: 2

A hospital must support Wi-Fi location tracking for mobile medical equipment throughout a patient-care floor. The design requires sufficient AP observations to calculate client location reliably. Which two RF design approaches should be used? (Choose two.)

A. Design for at least three APs to hear a client at -75 dBm or better.

B. Place APs in a staggered pattern to provide location geometry.

C. Design each area for coverage from one strong AP only.

D. Use 80-MHz channels to improve location accuracy.

E. Set all APs to maximum transmit power.

ANSWER: A B

Explanation:

A location design must provide signal coverage from at least three APs at approximately -75 dBm or better throughout the tracked area. Multiple AP measurements are necessary for the location system to estimate the client position, and the signal threshold ensures that those observations are usable rather than marginal.

APs should be placed in a staggered pattern that provides geometric diversity around the client. A straight-line AP layout can leave clients with poor triangulation geometry even when several AP signals are present. Designing only for one strong AP supports basic connectivity but does not provide the multiple observations required for location calculation. Very wide channels and maximum transmit power do not replace appropriate AP placement and can increase interference or reduce location accuracy.

QUESTION NO: 3

An engineer is performing an AP-on-a-stick survey and finds that the 5 GHz channel overlap is too high when an appropriate number of APs are used for the density requirements. Which two actions during the survey reduce channel overlap? (Choose two.)

A. Raise the minimum data rate to 24 Mbps.

B. Increase AP transmit power to improve the SNR.

C. Allow the use of UNII-2e channels.

D. Use directional antennas to limit the coverage area of some APs.

E. Enable power saving mode.

ANSWER: A D

Explanation:

Raising the minimum data rate to 24 Mbps reduces the usable RF cell radius because clients must maintain a stronger signal to associate and communicate at the required minimum rate. During an AP-on-a-stick survey, this provides a practical way to model smaller cells where high client density requires more APs, reducing the area in which neighboring cells overlap. Cisco recommends selecting minimum mandatory rates carefully because they directly affect cell boundaries, roaming behavior, and capacity design.

Using directional antennas to limit the coverage area of some APs also reduces overlap by concentrating energy into the intended service area instead of radiating it broadly in all directions. This is particularly useful at physical edges, in long corridors, or in irregular high-density spaces where an omnidirectional pattern would unnecessarily extend into adjacent cells. Antenna selection and data-rate design are complementary survey controls: one shapes the RF pattern spatially, while the other constrains the distance at which service is viable. Cisco's RF design guidance discusses the relationship between data rates, cell size, and RF coverage, and its antenna documentation describes how antenna patterns affect coverage planning. See Cisco RF Basics for Wireless LANs and Cisco Aironet Antennas and Accessories.

QUESTION NO: 4

What happens to an AP when a flex profile name is changed in a site tag?

A. It automatically updates its firmware without causing any downtime.

B. It temporarily disables all the currently broadcasting SSIDs.

C. It switches to a backup controller without any interruption.

D. It is forced to rejoin the controller by disconnecting the DTLS session.

ANSWER: D

Explanation:

It is forced to rejoin the controller by disconnecting the DTLS session. In a Cisco Catalyst 9800 wireless deployment, a site tag binds an access point to its policy, RF, and—when FlexConnect is used—Flex profiles. Changing the Flex profile name associated with the AP's site tag changes configuration that is applied during the AP join process. To ensure the AP receives and operates with the newly selected Flex profile consistently, the controller tears down the AP's existing CAPWAP/DTLS control connection and causes the AP to join again. During that rejoin, the controller reapplies the tag-derived configuration, including the selected Flex profile and its settings for such items as VLAN mapping, local switching, and local authentication behavior. This is an expected service-impacting control-plane event rather than an in-place, hitless profile update, so designers and administrators should plan the change with the AP rejoin and the associated temporary client-service disruption in mind. Cisco's Catalyst 9800 configuration guidance describes the association of Flex profiles through site tags and the controller's tag/profile deployment model. See the Cisco Catalyst 9800 Tags and Profiles configuration guide and Cisco's FlexConnect configuration documentation.

QUESTION NO: 5

A warehouse WLAN is designed for scanners that transmit at a maximum of 8 dBm. During validation, the APs are transmitting at 17 dBm and the scanners receive the AP signal at -67 dBm near the planned cell edge. However, the APs do not reliably receive scanner transmissions from the same locations. Which design change best resolves this issue while maintaining the required coverage?

A. Increase AP transmit power to extend the downlink cell size.

B. Reduce AP transmit power and add APs as needed to maintain coverage.

C. Lower the minimum mandatory data rate for the WLAN.

D. Enable Band Select for the scanner WLAN.

ANSWER: B

Explanation:

The design should **reduce AP transmit power and add APs as needed to maintain coverage**. The current design has an RF asymmetry problem: the AP can be heard by the low-power scanner farther away than the scanner can reliably transmit back to the AP. Reducing AP power creates smaller, more balanced cells, and additional APs can preserve the required coverage and capacity within those smaller cells.

Increasing AP transmit power worsens the asymmetry. Lowering the minimum data rate can permit clients to remain associated at weaker signal levels and does not improve the scanner uplink. Band Select influences initial band selection for capable clients but does not correct the transmit-power imbalance.

QUESTION NO: 6

A network engineer is designing a new wireless network for a campus. The network must include optimized performance, avoid interference, availability in high-density areas, and roaming. Which two approaches must be taken? (Choose two.)

A. 5 GHz frequency band with 20 MHz channels

B. 2.4 GHz frequency band with 20 MHz channels

C. 5 GHz frequency band with 80 MHz channels

D. 2.4 GHz frequency band with 40 MHz channels

E. 5 GHz frequency band with 40 MHz channels

ANSWER: A B

Explanation:

“5 GHz frequency band with 20 MHz channels” is appropriate because 20 MHz channels maximize the number of usable channel cells available for a campus RF design. This supports effective channel reuse, limits co-channel contention, and gives the controller and RF design more flexibility to accommodate dense client populations. The 5 GHz spectrum has substantially more channel resources than 2.4 GHz, so it should carry the majority of capable clients and is central to a high-density WLAN strategy. Cisco’s wireless design guidance emphasizes using 20 MHz channels where high density and capacity are primary requirements, rather than consuming spectrum through wider bonded channels.

“2.4 GHz frequency band with 20 MHz channels” is also required for a dual-band campus design that must support broad client compatibility and reliable roaming. In 2.4 GHz, preserving the standard 20 MHz channel width enables use of the established nonoverlapping channel plan and provides predictable RF behavior for legacy and dual-band devices. Maintaining consistent channel-width planning across access points helps clients reassociate smoothly while the design controls contention and interference. Together, these approaches provide a practical capacity-oriented RF foundation: 5 GHz supplies most capacity, while 2.4 GHz remains available for compatible coverage and client support. See Cisco’s high-density wireless design guidance and Enterprise Network Design Guide.

QUESTION NO: 7

A branch office has unreliable WAN connectivity to the data center. Wireless employee traffic must remain at the branch, and employees must still be able to authenticate when the WAN is unavailable. Which two design approaches meet the requirements? (Choose two.)

A. Configure FlexConnect APs for local switching of the employee WLAN.

B. Provide a branch RADIUS service for FlexConnect local authentication.

C. Configure central switching for the employee WLAN.

D. Configure the branch controller as a mobility anchor for employee traffic.

E. Disable VLAN mapping on the FlexConnect APs.

ANSWER: A B

Explanation:

FlexConnect local switching allows a branch AP to bridge employee traffic directly to the locally mapped VLAN instead of tunneling all client data across the WAN to the central controller. This preserves the local data path and avoids making normal user traffic dependent on WAN capacity.

Local authentication with a reachable branch RADIUS service allows new employee authentications to continue when the WAN path to the central authentication infrastructure is unavailable. Central authentication alone can support local switching, but it does not meet the requirement for new authentications during a WAN outage. Central switching would also unnecessarily send all client traffic to the data center.

QUESTION NO: 8

An enterprise is using wireless as the main network connectivity for clients. To ensure wireless network availability, two standalone controllers are installed in the head office. APs are connected to the controllers using a round-robin approach to load balance the traffic. After a power cut, the wireless clients disconnect while roaming. An engineer tried eping from the controller but fails. Which protocol needs to be allowed between the networks that the controllers are installed?

A. IP Protocol 67

B. IP Protocol 77

C. IP Protocol 87

D. IP Protocol 97

ANSWER: D

Explanation:

IP Protocol 97 is required because Cisco AireOS wireless controllers use EtherIP encapsulation for intercontroller mobility traffic. When a client roams between access points registered to different controllers, the controllers must exchange mobility information and carry the client data path as needed to preserve the client session. This communication is fundamental to intercontroller roaming, particularly where controller management interfaces are separated by routed networks or a firewall. The failed *eping* test is a useful indicator that the EtherIP path between the controllers is unavailable, commonly because protocol 97 is not permitted bidirectionally by an intervening firewall or access-control policy. Allowing IP protocol number 97 between the relevant controller management addresses restores the EtherIP transport required for this mobility connectivity. Protocol number 97 is assigned to EtherIP in the Internet Assigned Numbers Authority protocol-number registry: IANA Protocol Numbers. Cisco's controller mobility documentation describes the requirement for controller-to-controller communication to support client roaming and mobility-group operation: Cisco Wireless Controller Mobility Groups Configuration Guide.

QUESTION NO: 9

A company uses the same corporate WLAN in two areas of a campus. Clients in the engineering building must be locally mapped to VLAN 110, while clients in the finance building must be locally mapped to VLAN 120. The WLAN name and security configuration must remain the same, and the design cannot rely on RADIUS VLAN override. Which Cisco Catalyst 9800 configuration element must be used to apply the different WLAN-to-policy mappings to the APs in each building?

A. policy tag

B. site tag

C. RF tag

D. WLAN profile

ANSWER: A

Explanation:

A **policy tag** maps a WLAN profile to a policy profile and is assigned to APs. The engineer can create policy tags that reference the same corporate WLAN while mapping it to different policy profiles, such as one profile with VLAN 110 and another with VLAN 120. Assigning the appropriate policy tag to the APs in each building applies the intended local policy based on AP location.

A site tag applies AP join and FlexConnect-related settings, while an RF tag applies RF profiles. A WLAN profile defines the SSID and its common security settings, but it does not provide the AP-specific policy mapping required by this design.

QUESTION NO: 10

A network engineer must design a new Cisco wireless solution that contains three Cisco 9800-40 WLCs. WLC1 and WLC2 will be combined into one logical unit with SSO and a backup WLC named WLC3 will be joined by using a mobility tunnel. Link redundancy between the WLCs and the switches is required. Which WLCs must the design provide connectivity to the network equipment for LAG to be effective in an SSO failover scenario?

A. WLC1, WLC2, and WLC3

B. WLC2

C. WLC1 and WLC2

D. WLC1

ANSWER: C

Explanation:

WLC1 and WLC2 is correct because they form the high-availability Stateful Switchover (SSO) controller pair. For an SSO design to preserve network connectivity when the active controller role moves to the standby controller, both members of that HA pair require equivalent physical connectivity to the switching infrastructure. Providing the required LAG-connected interfaces for each controller ensures that the controller assuming the active role has an available, redundant data-path connection to the wired network immediately after failover. This design supports the purpose of SSO: retaining operational continuity while the standby controller takes over the active controller's functions and network identity. The port-channel configuration must also be designed consistently on the attached switching infrastructure so that the relevant controller links have the intended VLAN and redundancy characteristics. WLC3 is associated through mobility as a separate backup design element rather than being a member of the SSO logical pair; its connectivity does not supply the HA-pair LAG resilience required for an SSO role transition. Cisco's Catalyst 9800 high-availability guidance describes the active/standby SSO pair and its network-interface requirements, while Cisco's LAG documentation describes aggregating controller physical links for resiliency and bandwidth. See Cisco Catalyst 9800 High Availability configuration guide and Cisco LAG deployment guide.

QUESTION NO: 11

A customer requires the wireless network to perform real-time analysis to reduce congestion, link usage, and infrastructure upgrades. Which Cisco technology can accomplish this analysis?

A. band selection

B. QoS

C. Application Visibility and Control

D. 802.11r

ANSWER: C

Explanation:

Application Visibility and Control is the appropriate Cisco technology because it gives administrators real-time, application-level visibility into traffic traversing the wireless network. Cisco AVC uses deep packet inspection and Network-Based Application Recognition to identify and classify applications, including applications that use dynamic ports or are otherwise difficult to recognize using only basic Layer 3 or Layer 4 information. This visibility shows which applications, users, and traffic types consume wireless bandwidth and uplink capacity. As a result, a network designer can use measured traffic data to identify congestion sources, understand link utilization patterns, and make evidence-based decisions about capacity planning or infrastructure upgrades. AVC also supports policy enforcement after traffic is identified, enabling differentiated treatment such as application-aware quality-of-service marking and rate controls where supported. In a Cisco wireless deployment, this turns raw client traffic into actionable operational information rather than relying solely on aggregate utilization statistics. Cisco describes AVC as providing application visibility and control through NBAR-based application classification, helping organizations monitor and manage application traffic. See Cisco's Application Visibility and Control in Cisco Wireless Networks and the Cisco Wireless Controller AVC configuration guide.