

## 200-355.exam.512q

Number: 200-355  
Passing Score: 800  
Time Limit: 120 min  
File Version: 1



**VCE to PDF Converter :** <https://vceplus.com/vce-to-pdf/>

**Facebook:** <https://www.facebook.com/VCE.For.All.VN/>

**Twitter :** [https://twitter.com/VCE\\_Plus](https://twitter.com/VCE_Plus)

**Google+ :** <https://plus.google.com/+Vcepluscom>

**LinkedIn :** <https://www.linkedin.com/company/vceplus>

**Cisco 200-355**

**Implementing Cisco Wireless Network Fundamentals**

## Exam A

### QUESTION 1

In the current RF environment, the noise floor is -95 dBm. A tablet needs an SNR of 25 dB to transmit at the required speed. What must the RSSI cell edge be to meet the required SNR?

- A. -120 dBm
- B. -90 dBm
- C. -70 dBm
- D. -60 dBm
- E. -50 dBm

**Correct Answer:** C

**Section:** (none)

**Explanation**

**Explanation/Reference:**

Explanation:

### QUESTION 2

An access point is currently transmitting at 4 mW. The customer needs to increase its signal strength by 6 dB to create a larger wireless cell. What should the new transmit power be?

- A. 8 mW
- B. 10 mW
- C. 12 mW
- D. 16 mW
- E. 24 mW

**Correct Answer:** D

**Section:** (none)

**Explanation**

**Explanation/Reference:**

Explanation:

### QUESTION 3

A wireless engineer is designing the wireless networking for a company with offices in two different locations. Which two regulatory bodies should they check to find the maximum EIRP allowed? (Choose two.)

- A. IEEE
- B. FCC
- C. ITU-R
- D. ETSI
- E. Wi-Fi Alliance

**Correct Answer:** BD

**Section:** (none)

**Explanation**

**Explanation/Reference:**

Explanation:

#### **QUESTION 4**

After installing a Cisco 5508 Wireless Controller using the default settings, how often will the RRM update occur?

- A. 30 seconds
- B. 60 seconds
- C. 300 seconds
- D. 600 seconds
- E. 3600 seconds
- F. 7200 seconds

**Correct Answer:** D

**Section:** (none)

**Explanation**

**Explanation/Reference:**

Explanation:

#### **QUESTION 5**

A customer has requested a single point of policy enforcement for LAN and WLAN. Which deployment model should be used?

- A. converged
- B. autonomous
- C. FlexConnect
- D. centralized

**Correct Answer:** A

**Section:** (none)

**Explanation**

**Explanation/Reference:**

Explanation:

**QUESTION 6**

A customer has asked for the proper port configuration to allow for LAG on a Cisco 2504 Wireless Controller to a Cisco IOS switch. Which EtherChannel mode should be used on the switch to allow for the WLC to connect?

- A. on
- B. auto
- C. desirable
- D. passive
- E. active

**Correct Answer:** A

**Section:** (none)

**Explanation**

**Explanation/Reference:**

Explanation:

**QUESTION 7**

A customer has asked for its wireless equipment to be managed as securely as possible. Which three management protocols will provide encrypted access to the equipment? (Choose three.)

- A. Secure Shell
- B. HTTPS
- C. SNMPv3
- D. Telnet
- E. SNMPv2c
- F. HTTP

**Correct Answer:** ABC

**Section:** (none)

**Explanation**

**Explanation/Reference:**

Explanation:

**QUESTION 8**

When deploying a Cisco Cloud Wireless Infrastructure, what two destination ports must be open? (Choose two.)

- A. TCP/5246
- B. UDP/5246
- C. TCP/5247
- D. UDP/5247
- E. TCP/7351
- F. UDP/7351
- G. TCP/7734
- H. UDP/7734

**Correct Answer:** FG

**Section:** (none)

**Explanation**

**Explanation/Reference:**

Explanation:

**QUESTION 9**

A help desk engineer is attempting to perform a remote packet capture on the wireless network. Which access point mode is necessary to perform this function?

- A. sniffer
- B. SE-Connect
- C. monitor
- D. rogue detector
- E. FlexConnect

**Correct Answer:** A

**Section:** (none)

**Explanation**

**Explanation/Reference:**

Explanation:

**QUESTION 10**

Refer to the exhibit.

General	Security	QoS	Policy-Mapping
Quality of Service (QoS)			
		Gold (video)	
Application Visibility		<input checked="" type="checkbox"/> Enabled	
AVC Profile		none	
Netflow Monitor		none	
<b>WMM</b>			
WMM Policy		Disabled	
7920 AP CAC		<input type="checkbox"/> Enabled	
7920 Client CAC		<input type="checkbox"/> Enabled	
<b>Media Stream</b>			
Multicast Direct		<input checked="" type="checkbox"/> Enabled	

A help desk ticket has been entered for the wireless infrastructure. A wireless client is not able to connect at IEEE 802.11n rates. Which option allows for connectivity?

- A. Set WMM mode to Optional or Required.
- B. Set Quality of Service (QoS) to Silver.
- C. Set Quality of Service (QoS) to Platinum.
- D. Set 7920 AP CAC to Enabled.

**Correct Answer:** A

**Section:** (none)

**Explanation**

**Explanation/Reference:**

Explanation:

#### **QUESTION 11**

An engineer has been asked to upgrade the FUS on the Wireless LAN controller. How can they monitor the status of the upgrade?

- A. WLC GUI
- B. WLC CLI
- C. WLC Console
- D. WLC Management in Prime Infrastructure

**Correct Answer:** C

**Section:** (none)

**Explanation**

**Explanation/Reference:**

Explanation:

#### **QUESTION 12**

During a wireless site survey, the signal strength drops significantly when outside of the room containing the access point. The building is made of wood and drywall. This is an example of which wireless anomaly?

- A. absorption
- B. refraction
- C. fading
- D. multipath
- E. reflection

**Correct Answer:** A

**Section:** (none)

**Explanation**

**Explanation/Reference:**

Explanation:

**QUESTION 13**

A wireless engineer has been asked to plan a deployment covering the aisles of a warehouse with optimal coverage while bleeding RF across aisles. Which antenna type provides the necessary coverage?

- A. patch
- B. omnidirectional
- C. Yagi
- D. parabolic dish

**Correct Answer:** A

**Section:** (none)

**Explanation**

**Explanation/Reference:**

Explanation:

**QUESTION 14**

Refer to the exhibit.



## WLC Management Interface Configuration

### Interface Address

VLAN Identifier	<input type="text" value="10"/>
IP Address	<input type="text" value="172.30.1.30"/>
Netmask	<input type="text" value="255.255.255.0"/>
Gateway	<input type="text" value="172.30.1.2"/>
IPv6 Address	<input type="text" value="::"/>
Prefix Length	<input type="text" value="128"/>
IPv6 Gateway	<input type="text" value="::"/>
Link Local IPv6 Address	<input type="text" value="fe80::d68c:b5ff:fec3:eef/64"/>

### Physical Information

The interface is attached to a LAG.

Enable Dynamic AP Management ☒

### DHCP Information

Primary DHCP Server	<input type="text" value="172.30.1.20"/>
Secondary DHCP Server	<input type="text" value="172.30.1.21"/>
DHCP Proxy Mode	<input type="text" value="Global"/>
Enable DHCP Option 82	<input type="checkbox"/>

### Switchport Configuration

Current configuration : 235 bytes

!

```
interface GigabitEthernet0/9
description 5508 Port 1
switchport trunk encapsulation dot1q
switchport trunk allowed vlan 1,20,30,40
switchport mode trunk
priority-queue out
mls qos trust dscp
spanning-tree portfast trunk
end
```

The wireless engineer has deployed the Cisco 5508 Wireless Controller. The controller is responding on the service port; however, it will not respond on the management interface. Which configuration revision will fix the management interface?

- A. On the switch interface, configure switch(config-if)#switchport trunk allowed vlan add 10.
- B. On the WLC management interface, disable LAG on the management network.
- C. On the switch interface, configure switch(config-if)#switchport trunk allowed vlan 10.
- D. On the WLC management interface, change the VLAN ID to 20.
- E. On the switch interface, configure no spanning-tree portfast trunk.
- F. On WLC Controller > General, disable LAG and reboot.

**Correct Answer:** A

**Section:** (none)

**Explanation**

**Explanation/Reference:**

Explanation:

#### **QUESTION 15**

A help desk ticket states that a wireless access point has not joined its controller and is flashing rapidly. How can the help desk administer the access point with the default settings?

- A. console
- B. SSH
- C. Telnet
- D. HTTP
- E. HTTPS

**Correct Answer:** A

**Section:** (none)

**Explanation**

**Explanation/Reference:**

Explanation:

#### **QUESTION 16**

After you configure the Cisco 5508 Wireless Controller v7.6, a customer requests an SSID that allows for client web authentication with email input. Which authentication method should be used?

- A. pass-through
- B. authentication
- C. splash page web redirect

- D. conditional web redirect
- E. on MAC filter failure

**Correct Answer:** A

**Section:** (none)

**Explanation**

**Explanation/Reference:**

Explanation:

#### **QUESTION 17**

Which two principles must be considered when deploying a wireless network through a wooded area? (Choose two.)

- A. absorption
- B. reflection
- C. diffraction
- D. scattering
- E. refraction

**Correct Answer:** AD

**Section:** (none)

**Explanation**

**Explanation/Reference:**

Explanation:

#### **QUESTION 18**

What is an interferer that an engineer may see in Cisco CleanAir?

- A. microwave ovens
- B. rogue APs
- C. malicious clients
- D. co-channel interference

**Correct Answer:** A

**Section:** (none)

**Explanation**

**Explanation/Reference:**

Explanation:

**QUESTION 19**

A network engineer notices that two mesh APs are having problems communicating. After reviewing the current radio configurations, it is noted that one AP is transmitting at 3 mW while the other is transmitting at 60 mW. How many decibels would the 3-mW AP need its power increased to match the 60-mW AP?

- A. 8
- B. 12
- C. 13
- D. 20
- E. 57

**Correct Answer: C**

**Section: (none)**

**Explanation**

**Explanation/Reference:**

Explanation:

**QUESTION 20**

A network engineer requires an antenna for a point-to-point bridge with at least 20 dBi of gain. Which antenna is appropriate for the task?

- A. Yagi
- B. patch
- C. parabolic dish
- D. dipole
- E. internal omnidirectional

**Correct Answer: C**

**Section: (none)**

**Explanation**

**Explanation/Reference:**

Explanation:

**QUESTION 21**

An engineer needs to find out the maximum EIRP allowed for their office in Asia. What regulatory body should be contacted?

- A. CRTC

- B. ETSI
- C. IEEE
- D. NTT

**Correct Answer:** D

**Section:** (none)

**Explanation**

**Explanation/Reference:**

Explanation:

#### **QUESTION 22**

A wireless engineer has an access point using the 5.725-GHz channel in the United States. In which band is the AP operating?

- A. UNII-1
- B. UNII-2
- C. UNII-2 Extended
- D. UNII-3

**Correct Answer:** C

**Section:** (none)

**Explanation**

**Explanation/Reference:**

Explanation:

#### **QUESTION 23**

Which RRM feature allows an access point to avoid non-IEEE 802.11 interference?

- A. DCA
- B. TPC
- C. RF groups
- D. coverage hole detection

**Correct Answer:** A

**Section:** (none)

**Explanation**

**Explanation/Reference:**

Explanation:

**QUESTION 24**

Which IEEE 802.11n client feature can combine the signal from multiple antennas and radio chains to improve SNR?

- A. channel aggregation
- B. spatial multiplexing
- C. MAC layer efficiency
- D. TxBF
- E. MRC
- F. MCS

**Correct Answer:** E

**Section:** (none)

**Explanation**

**Explanation/Reference:**

Explanation:

**QUESTION 25**

An engineer needs an AP with at least two spatial streams, four receivers, and three transmitters. Which device meets these requirements?

- A. 2x4:3
- B. 2x3:4
- C. 4x3:2
- D. 3x4:2

**Correct Answer:** D

**Section:** (none)

**Explanation**

**Explanation/Reference:**

Explanation:

**QUESTION 26**

Which option is used to form the BSSID in a BSS?

- A. AP radio MAC address
- B. AP wired MAC address

- C. AP serial number
- D. client radio MAC address
- E. client wired MAC address
- F. client serial number

**Correct Answer:** A

**Section:** (none)

**Explanation**

**Explanation/Reference:**

Explanation:

#### **QUESTION 27**

A network engineer at a retail store needs a wireless deployment that can be easily maintained and verified for PCI compliance. What solution will meet this need with the least work?

- A. Cloud
- B. Autonomous
- C. FlexConnect
- D. Centralized

**Correct Answer:** A

**Section:** (none)

**Explanation**

**Explanation/Reference:**

Explanation:

#### **QUESTION 28**

When using a Split MAC architecture, how many CAPWAP data tunnels will be built to an AP with four SSIDs across two VLANs?

- A. 1
- B. 2
- C. 3
- D. 4

**Correct Answer:** A

**Section:** (none)

### Explanation

#### Explanation/Reference:

Explanation:

#### QUESTION 29

A customer has ordered a Cisco 5760 Wireless Controller. What speed and quantity of ports are needed for full-speed operation?

- A. 6 x 1 Gb
- B. 6 x 10 Gb
- C. 2 x 10 Gb
- D. 2 x 1 Gb
- E. 8 x 1 Gb
- F. 8 x 10 Gb

**Correct Answer:** B

**Section:** (none)

#### Explanation

#### Explanation/Reference:

Explanation:

#### QUESTION 30

Refer to the exhibit.

Interface Name	VLAN Identifier	IP Address	Interface Type
<a href="#">ap-manager</a>	4	192.168.4.2	Dynamic
<a href="#">clients</a>	2	192.168.2.2	Dynamic
<a href="#">guests</a>	3	192.168.3.2	Dynamic
<a href="#">management</a>	untagged	192.168.1.2	Static
<a href="#">mgmt</a>	1	192.168.0.2	Dynamic
<a href="#">virtual</a>	N/A	1.1.1.1	Static

A network administrator is attempting to connect to the GUI of a WLC with interfaces as shown. Which IP address should the network administrator use?



- A. 192.168.0.2
- B. 192.168.1.2
- C. 192.168.2.2
- D. 192.168.3.2
- E. 192.168.4.2

**Correct Answer:** B

**Section:** (none)

**Explanation**

**Explanation/Reference:**

Explanation:

#### **QUESTION 31**

A network engineer is connected via wireless to a Cisco AireOS WLC and wants to download the configuration but is unable to do so. Which change will correct the issue?

- A. enable management via wireless
- B. connect via wired network
- C. enable Telnet
- D. enable WebAuth SecureWeb
- E. connect on 5-GHz SSID

**Correct Answer:** B

**Section:** (none)

**Explanation**

**Explanation/Reference:**

Explanation:

#### **QUESTION 32**

A customer wants to deploy Cisco Cloud Wireless architecture with 802.11ac capabilities. Which two access points would meet the customer's requirements? (Choose two.)

- A. Cisco 3700 Access Points
- B. Cisco MR34 Access Points
- C. Cisco MR18 Access Points

- D. Cisco 3600 Access Points
- E. Cisco MR72 Access Points
- F. Cisco 1570 Access Points
- G. Cisco MR26 Access Points

**Correct Answer:** AE

**Section:** (none)

**Explanation**

**Explanation/Reference:**

Explanation:

### **QUESTION 33**

An engineer is trying to convert the IP Address of the wireless controller to amend DHCP Option 43 configuration on the DHCP server. What mathematical format must the IP address of the Wireless controller be converted to in order to function correctly?

- A. Hexadecimal
- B. Binary
- C. Decimal
- D. ASCII

**Correct Answer:** A

**Section:** (none)

**Explanation**

**Explanation/Reference:**

Explanation:

### **QUESTION 34**

Refer to the exhibit.

General

Credentials

Interfaces

High Availability

Inventory

Advanced

	Name	Management IP Address
Primary Controller	WLC1	10.201.204.8
Secondary Controller	WLC2	10.201.204.11
Tertiary Controller	WLC3	10.201.204.6

AP Failover Priority

Low

High Availability

AP Heartbeat Timeout(1-30)

30

Local Mode AP Fast Heartbeat Timer State

Disable

H-REAP Mode AP Fast Heartbeat Timer State

Disable

AP Primary Discovery Timeout(30 to 3600)

120

Back-up Primary Controller IP Address

10.201.204.19

Back-up Primary Controller name

Back-UP-WLC

Back-up Secondary Controller IP Address

Back-up Secondary Controller name

TCP MSS

Global TCP Adjust MSS☐

AP Retransmit Config Parameters

AP Retransmit Count

5

☐

AP Retransmit Interval

3

☐

WLC1 becomes unresponsive due to a power failure at a customer site. How does the access point that is shown in the WLC controller GUI behave now that

WLC1 is disabled?

- A. associates to controller 10.201.204.6
- B. associates to controller 10.201.204.11
- C. associates to controller 10.201.204.8
- D. associates to controller 10.201.204.19

**Correct Answer:** B

**Section:** (none)

**Explanation**

**Explanation/Reference:**

Explanation:

#### **QUESTION 35**

A customer wants to deploy a mesh network with 2 root access points and 10 mesh access points. The root access points should be configured as which mode on the WLC?

- A. mesh
- B. FlexConnect
- C. bridge
- D. rouge detection
- E. sniffer

**Correct Answer:** C

**Section:** (none)

**Explanation**

**Explanation/Reference:**

Explanation:

#### **QUESTION 36**

A customer has completed the installation of an 802.11ac greenfield deployment at their corporate headquarters. They would like to leverage 802.11ac enhanced speeds on the trusted employee WLAN. In order to configure the employee WLAN, what Layer 2 security policies are valid?

- A. WPA2 (TKIP)
- B. WPA(AES)
- C. OPEN

D. WEP

**Correct Answer:** C

**Section:** (none)

**Explanation**

**Explanation/Reference:**

Explanation:

**QUESTION 37**

A customer cannot access the GUI on the Cisco 5508 Wireless Controller from the management interface due to network failure. Which interface can the customer use to access the WLC GUI until the network issues are resolved?

- A. virtual
- B. dynamic
- C. console port
- D. service port

**Correct Answer:** D

**Section:** (none)

**Explanation**

**Explanation/Reference:**

Explanation:

**QUESTION 38**

Refer to the exhibit.

```
(Cisco Controller) >show network summary
RF-Network Name..... Cisco
Web Mode..... Disable
Secure Web Mode..... Disable
Secure Web Mode Cipher-Option High..... Disable
Secure Web Mode Cipher-Option SSLv2..... Disable
Secure Web Mode RC4 Cipher Preference..... Disable
OCSP..... Disabled
OCSP responder URL.....
Secure Shell (ssh)..... Enable
Telnet..... Disable
Ethernet Multicast Forwarding..... Disable
Ethernet Broadcast Forwarding..... Disable
IPv4 AP Multicast/Broadcast Mode..... Multicast Address : 239.0.1.1
IGMP snooping..... Disabled
IGMP timeout..... 60 seconds
IGMP Query Interval..... 20 seconds
MLD snooping..... Disabled
MLD timeout..... 60 seconds
MLD query interval..... 20 seconds
User Idle Timeout..... 300 seconds
ARP Idle Timeout..... 300 seconds
```

A customer is using central web authentication with a Cisco 5508 Wireless Controller and Cisco Identity Services Engine. An error occurs when wireless clients are redirected to the hosted splash page. What is causing the client error?

- A. Secure Web Mode is disabled on the WLC.
- B. OCSP is disabled on the WLC.
- C. Management Via Dynamic Interface is disabled on the WLC.

D. Ethernet Multicast Forwarding is enabled on the WLC.

**Correct Answer:** A

**Section:** (none)

**Explanation**

**Explanation/Reference:**

Explanation:

#### **QUESTION 39**

A customer is using the access point GUI to upgrade the software on an autonomous access point to convert it to a lightweight access point. Which two transfer protocols are valid for conducting this transfer from the WLC? (Choose two.)

- A. FTP
- B. RCP
- C. SFTP
- D. HTTP
- E. SCP
- F. TFTP

**Correct Answer:** DF

**Section:** (none)

**Explanation**

**Explanation/Reference:**

Explanation:

#### **QUESTION 40**

An engineer wants to set up guest wireless that requires users to log in via a splash page prior to accessing the network. Which authentication method should be configured?

- A. LDAP
- B. RADIUS
- C. local authentication
- D. WebAuth
- E. PSK

**Correct Answer:** D

**Section:** (none)

## **Explanation**

### **Explanation/Reference:**

Explanation:

### **QUESTION 41**

An engineer would like to setup secure authentication for a wireless network that will utilize single sign-on. Which two authentication methods can be used to accomplish this? (Choose two.)

- A. LDAP
- B. RADIUS
- C. Local authentication
- D. WEP
- E. PSK

**Correct Answer:** AB

**Section:** (none)

**Explanation**

### **Explanation/Reference:**

Explanation:

### **QUESTION 42**

An engineer wants to have users who connect to a WLAN be redirected to a terms-of-service page with the company logo and a login. What should be configured on the WLAN to enable this capability?

- A. Layer 2 IEEE 802.1x
- B. Web Policy Slash Page Web Redirect
- C. Web Policy Authentication
- D. AAA Servers
- E. Web Policy Passthrough

**Correct Answer:** C

**Section:** (none)

**Explanation**

### **Explanation/Reference:**

Explanation:



**QUESTION 43**

What suite of algorithms results in slower connection rates when using 802.11N technology?

- A. WPA2
- B. CCMP
- C. TKIP
- D. AES

**Correct Answer:** C

**Section:** (none)

**Explanation**

**Explanation/Reference:**

Explanation:

**QUESTION 44**

An engineer assists a user in configuring an Android device for authentication to an IEEE 802.1x EAP WLAN with PEAPv1. The Phase 2 authentication should be configured as which option?

- A. LEAP
- B. MSCHAPv2
- C. TLS
- D. TTLS

**Correct Answer:** B

**Section:** (none)

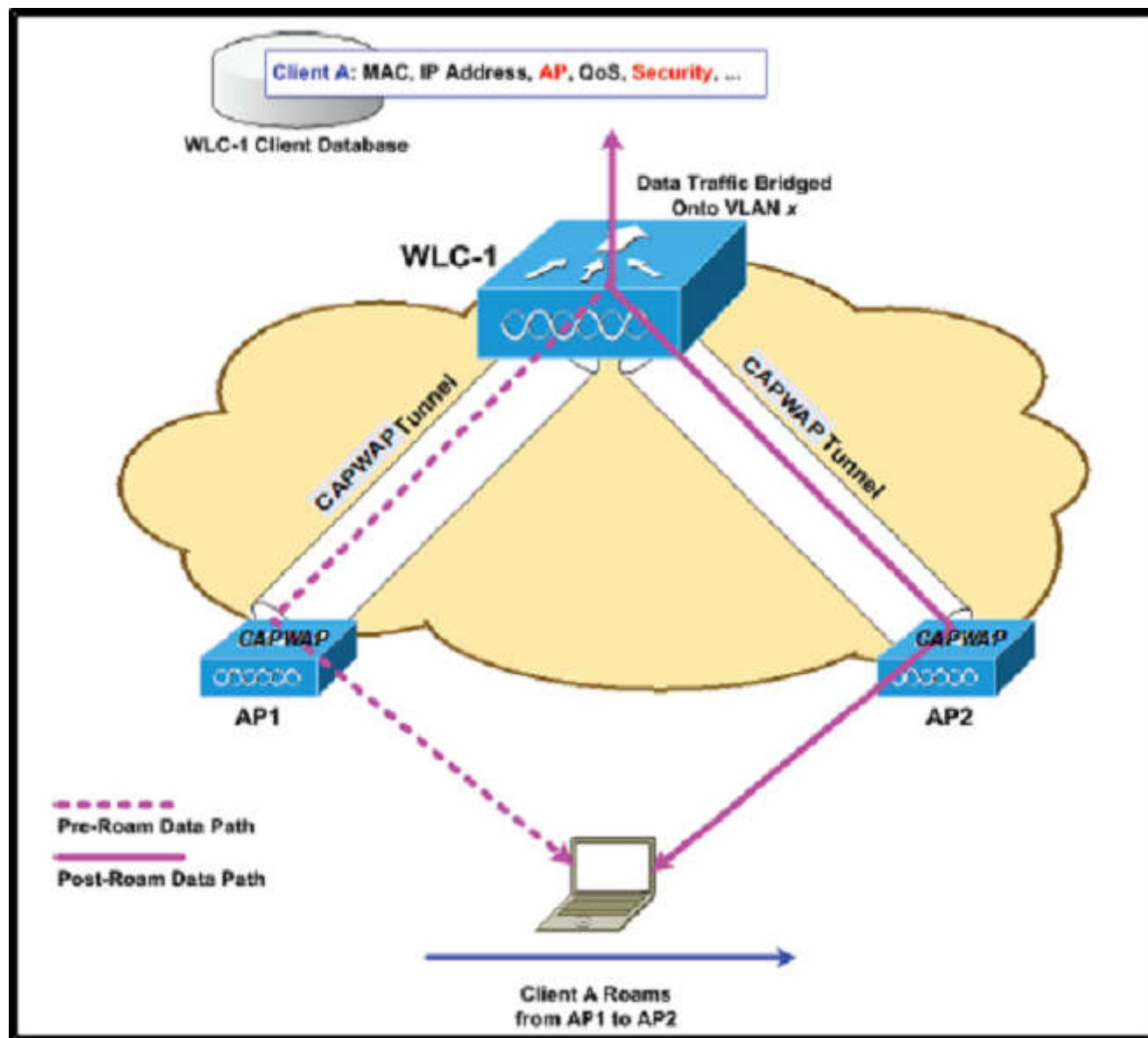
**Explanation**

**Explanation/Reference:**

Explanation:

**QUESTION 45**

Refer to the exhibit.



Which two wireless functions is the client experiencing? (Choose two.)

- A. Inter-controller Roaming
- B. Intra-controller Roaming
- C. Layer 2 Roaming
- D. Layer 3 Roaming
- E. Inter-subnet roaming
- F. Re-authentication

**Correct Answer:** BC

**Section:** (none)

**Explanation**

**Explanation/Reference:**

Explanation:

#### **QUESTION 46**

What is the approximate time difference for a client to perform an intracontroller roam compared to an intercontroller roam?

- A. 1 ms
- B. 10 ms
- C. 20 ms
- D. 30 ms

**Correct Answer:** B

**Section:** (none)

**Explanation**

**Explanation/Reference:**

Explanation:

#### **QUESTION 47**

Which two attributes must be configured to match in order for WLCs to operate in the same mobility group? (Choose two.)

- A. mobility domain name
- B. virtual IP address
- C. service interface address
- D. hardware model
- E. software version

**Correct Answer:** AB

**Section:** (none)

**Explanation**

**Explanation/Reference:**

Explanation:

**QUESTION 48**

Which operating mode is valid for controllers in a converged access architecture?

- A. switch peer groups
- B. mobility controller
- C. auto-anchor
- D. foreign anchor

**Correct Answer:** B

**Section:** (none)

**Explanation**

**Explanation/Reference:**

Explanation:

**QUESTION 49**

An engineer wants to deploy a 2504 controller as the anchor controller for a guest WLAN that resides on a 5508 controller in a different mobility group. What configuration change must be applied to support this deployment strategy?

- A. UDP 16666 and IP Protocol 97 must be enabled on the 2504 controller
- B. UDP 5246 and TCP Protocol 97 must be enabled on the router
- C. The 2504 controller must be added to the same mobility group as the 5508.
- D. DHCP Option 43 must be added to the neighboring switchport

**Correct Answer:** C

**Section:** (none)

**Explanation**

**Explanation/Reference:**

Explanation:

**QUESTION 50**

Which interface is used to connect the foreign and anchor controllers?

- A. management
- B. service
- C. virtual
- D. dynamic

**Correct Answer:** A

**Section:** (none)

**Explanation**

**Explanation/Reference:**

Explanation:

**QUESTION 51**

A customer has a corporate SSID that is configured to authenticate against an ACS server to validate client credentials on the corporate SSID. The customer has a firewall logically positioned on the network between the WLC and the ACS server in the network architecture. Which port must the firewall allow to ensure that authentication can occur?

- A. 43
- B. 1812
- C. 5146
- D. 8143

**Correct Answer:** B

**Section:** (none)

**Explanation**

**Explanation/Reference:**

Explanation:

**QUESTION 52**

Refer to the exhibit.

```
interface GigabitEthernet2/1
  no ip address
  switchport
  switchport trunk encapsulation dot1q
  switchport trunk allowed vlan 1,5,15,20,25,30,35,40,45,50,55,100
  switchport trunk native vlan 44
  switchport mode trunk
end
```

An engineer is configuring a SSID to utilize the management interface on the WLC. The management interface is configured with an untagged VLAN in the wireless controller interface settings. The controller is connected to a neighboring switch via the interface shown in the diagram. Which VLAN will traffic coming from the newly created SSID use to traverse the wired network?

- A. 1
- B. 20
- C. 44
- D. 50

**Correct Answer:** C

**Section:** (none)

**Explanation**

**Explanation/Reference:**

Explanation:

#### **QUESTION 53**

During an upgrade, the wireless infrastructure has seen a few access points join and then drop off the network. After further investigation, it appears the access points may have an IOS code version that is causing issues. Where in the controller is this information found?

- A. GUI > Wireless > Access Point > General
- B. CLI > show ap image all
- C. GUI > Monitor > Software Version

D. CLI > show sysinfo

**Correct Answer:** A

**Section:** (none)

**Explanation**

**Explanation/Reference:**

Explanation:

#### **QUESTION 54**

Microsoft Active Directory integrated machines are not authenticating to the internal WLAN. The WLAN settings are WPA2-AES-802.1x and are authenticating to a Cisco Identity Services Engine server. You investigate and note that non-domain authenticated machines are properly authenticating to the WLAN using their Active Directory credentials. Why would this problem occur?

- A. The WLAN is configured improperly in group policy.
- B. The ACS server is not joined to the domain, causing authentications to fail.
- C. The domain machines are configured to disable the wireless adapter.
- D. The non-domain machines are using local accounts that are not authenticated through the domain.

**Correct Answer:** A

**Section:** (none)

**Explanation**

**Explanation/Reference:**

Explanation:

#### **QUESTION 55**

Mac OS X machines are having issues accessing the wireless network. While working with TAC, the administrator is asked to find the Mac laptop's wireless adapter model and driver. Where should the administrator look to find this information?

- A. About This Mac > System Report
- B. Control Panel > System
- C. System Preferences > Network > Wi-Fi Adapter > Advanced
- D. Control Panel > Networking > Adapters > Properties

**Correct Answer:** A

**Section:** (none)

**Explanation**

**Explanation/Reference:**

Explanation:

**QUESTION 56**

An engineer is trying to determine from the controller CLI whether or not Telnet is enabled on the wireless controller. Which command can be entered to display this information?

- A. show network summary
- B. show aaa auth
- C. show radius summary
- D. show ldap statistics

**Correct Answer:** A

**Section:** (none)

**Explanation**

**Explanation/Reference:**

Explanation:

**QUESTION 57**

An engineer is trying to identify if radar has impacted the wireless network at a customer site. When using the controller GUI, which dashboard in the Monitor section presents this information?

- A. 802.11a/n - Air Quality Reports
- B. Clean Air - Worst Air Quality Report
- C. 802.11b/g/n - Interfering Devices
- D. Statistics - Mobility Statistics

**Correct Answer:** A

**Section:** (none)

**Explanation**

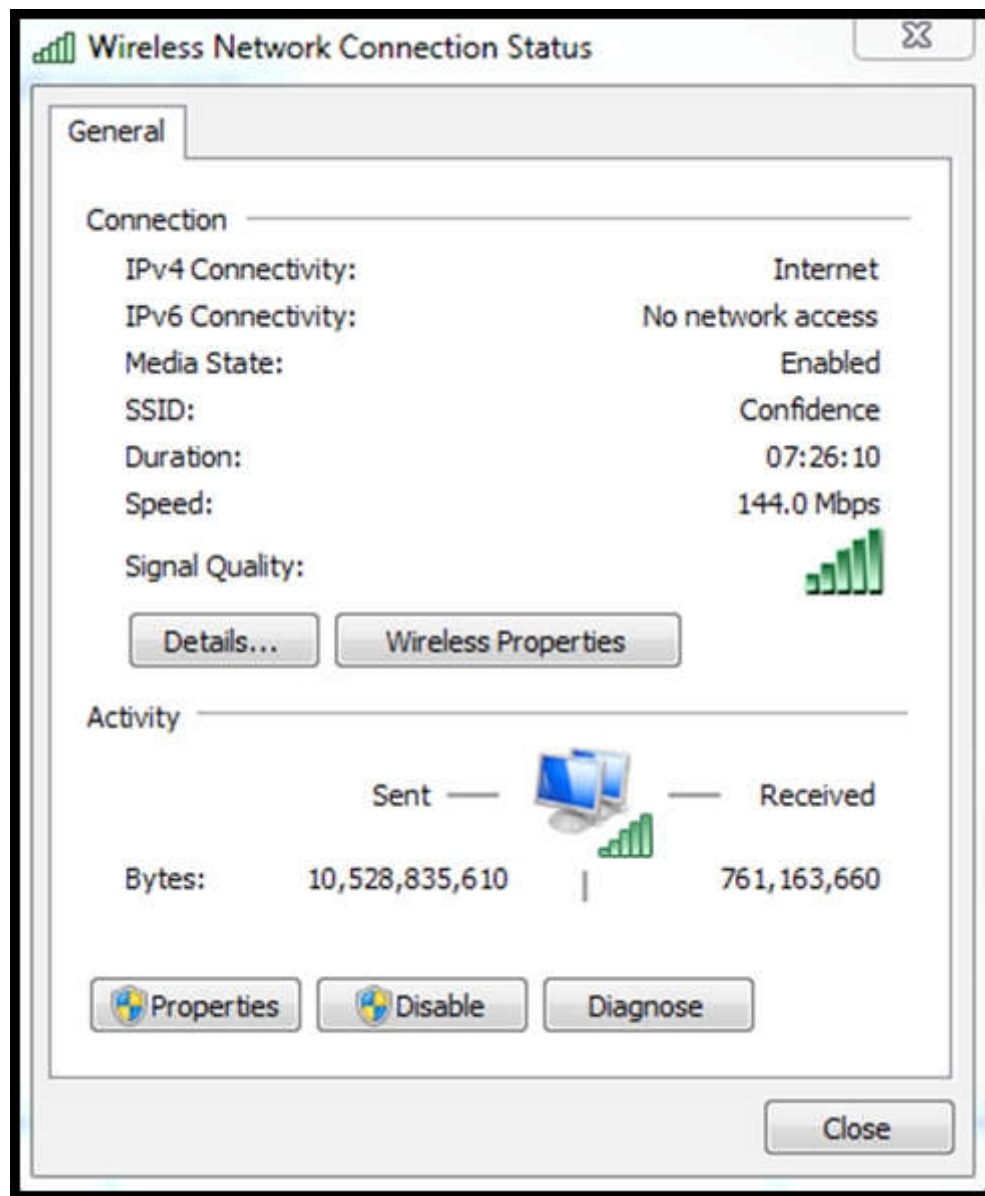
**Explanation/Reference:**

Explanation:

**QUESTION 58**

Refer to the exhibit.





A customer is determining whether a Windows 7 laptop is operating on the correct IEEE 802.11 standard. Which standard is being used by the laptop in the

exhibit?

- A. 802.11b
- B. 802.11g
- C. 802.11n
- D. 802.11p

**Correct Answer:** C

**Section:** (none)

**Explanation**

**Explanation/Reference:**

Explanation:

#### **QUESTION 59**

An engineer is using a predictive survey tool to estimate placement of APs in a carpeted office space. Most interior walls should be assigned which attenuation value?

- A. 2 dB
- B. 3 dB
- C. 4 dB
- D. 5 dB

**Correct Answer:** B

**Section:** (none)

**Explanation**

**Explanation/Reference:**

Explanation:

#### **QUESTION 60**

An engineer is conducting an active survey for indoor coverage in a warehouse. The warehouse has long aisles with racks that extend to the ceiling. Which antenna type has a radiation pattern that is suited to provide coverage in each aisle?

- A. Yagi
- B. patch
- C. omnidirectional
- D. dipole

**Correct Answer:** B

**Section:** (none)

**Explanation**

**Explanation/Reference:**

Explanation:

**QUESTION 61**

Following the deployment of a wireless network for data and voice services, an engineer is to validate the coverage. Which type of survey is required to ensure coverage?

- A. passive
- B. active
- C. fingerprinting
- D. calibrating

**Correct Answer:** A

**Section:** (none)

**Explanation**

**Explanation/Reference:**

Explanation:

**QUESTION 62**

During the deployment of a wireless network for data and location services, an engineer is to fine-tune the location services. What is this type of survey called?

- A. passive fingerprinting
- B. passive calibrating
- C. active fingerprinting
- D. active calibrating

**Correct Answer:** A

**Section:** (none)

**Explanation**

**Explanation/Reference:**

Explanation:

**QUESTION 63**

Refer to the exhibit.



In an effort to identify RF characteristics at a customer location, an RF engineer uses the Spectrum Analyzer tool that is shown. Which feature that is native to the Spectrum Analyzer is identified by the exhibit?

- A. Real-Time FFT
- B. Duty Cycle
- C. Max Hold
- D. Time Domain

**Correct Answer:** A

**Section:** (none)

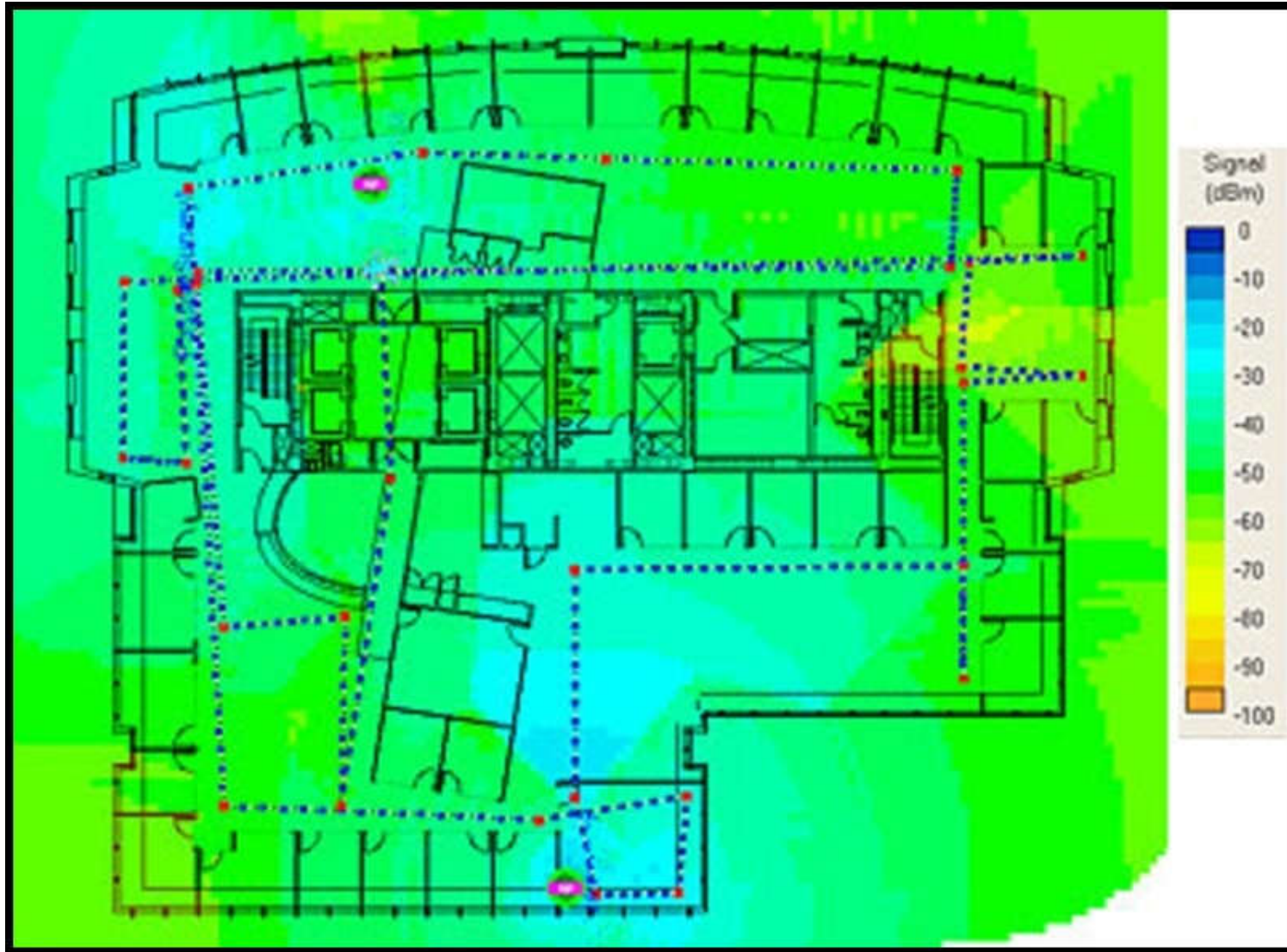
**Explanation**

**Explanation/Reference:**

Explanation:

**QUESTION 64**

Refer to the exhibit.



The site in this AirMagnet Survey heat map is ready for which level of service?

A. data

- B. voice
- C. location
- D. RFID

**Correct Answer:** A

**Section:** (none)

**Explanation**

**Explanation/Reference:**

Explanation:

**QUESTION 65**

Which two services require an RToWLAN design? (Choose two.)

- A. WVoIP
- B. video conferencing
- C. multicast video
- D. Telnet
- E. SSH

**Correct Answer:** AB

**Section:** (none)

**Explanation**

**Explanation/Reference:**

Explanation:

**QUESTION 66**

DRAG DROP

Drag the propagation behavior on the left to the corresponding environment on the right.

**Select and Place:**

Absorption
Diffraction
Scattering
Reflection
Free Space Path Loss
Multipath

Distant Point to Point Line of Sight
Distant Point to Point with Obstacles
Metal Cabinets in Dense Office
Pass Through a Wooden Wall
Pass Through Rain
Point to Point Over Body of Water

Correct Answer:




Free Space Path Loss
Multipath
Diffraction
Absorption
Scattering
Reflection

**Section: (none)**

**Explanation**

**Explanation/Reference:**

**QUESTION 67**

What is the effect of increasing antenna gain on a radio?

- A. focusing energy in a defined direction
- B. adding energy creating a larger cell
- C. aligning phase shifting
- D. improving frequency specific diversity

**Correct Answer: B**

**Section: (none)**

**Explanation**

**Explanation/Reference:**

Explanation:

**QUESTION 68**

Which signal strength reading indicates that the engineer is closest to the access point?

- A. -43 dBm
- B. -67 dBm
- C. -87 dBm
- D. -100 dBm

**Correct Answer:** A

**Section:** (none)

**Explanation**

**Explanation/Reference:**

Explanation:

**QUESTION 69**

The new tablets for the sales department require an SNR of 18 or more to operate. Given a noise floor of -88 dBm, what is the minimum RSSI that is needed?

- A. -60 dBm
- B. -70 dBm
- C. -72 dBm
- D. -80 dBm
- E. -96 dBm
- F. -106 dBm

**Correct Answer:** B

**Section:** (none)

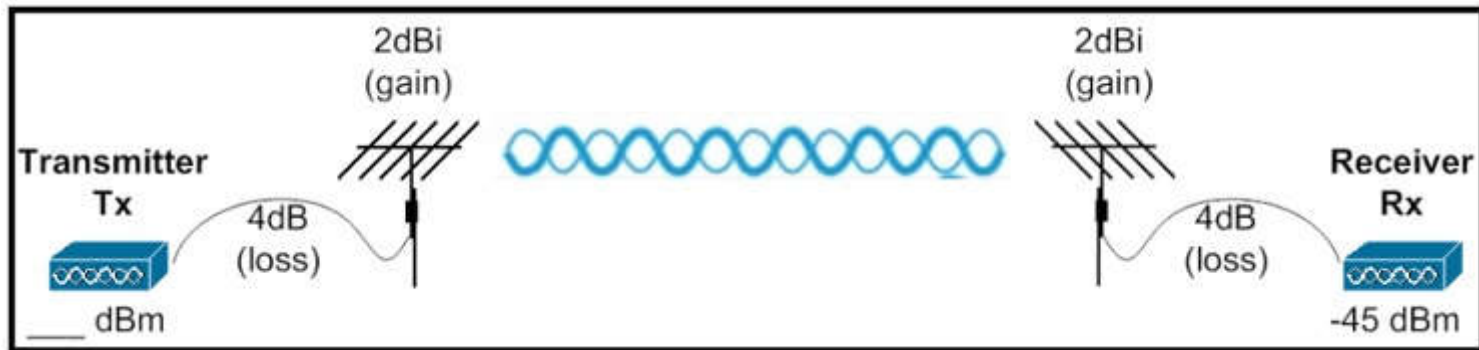
**Explanation**

**Explanation/Reference:**

Explanation:

**QUESTION 70**

Refer to the exhibit.



A network engineer needs the far end of a wireless bridge to receive at -45dBm. Based on the diagram, what value in dBm must the transmitter use to send to achieve the desired result?

- A. -118
- B. -28
- C. -20
- D. 20
- E. 28
- F. 118

**Correct Answer:** E

**Section:** (none)

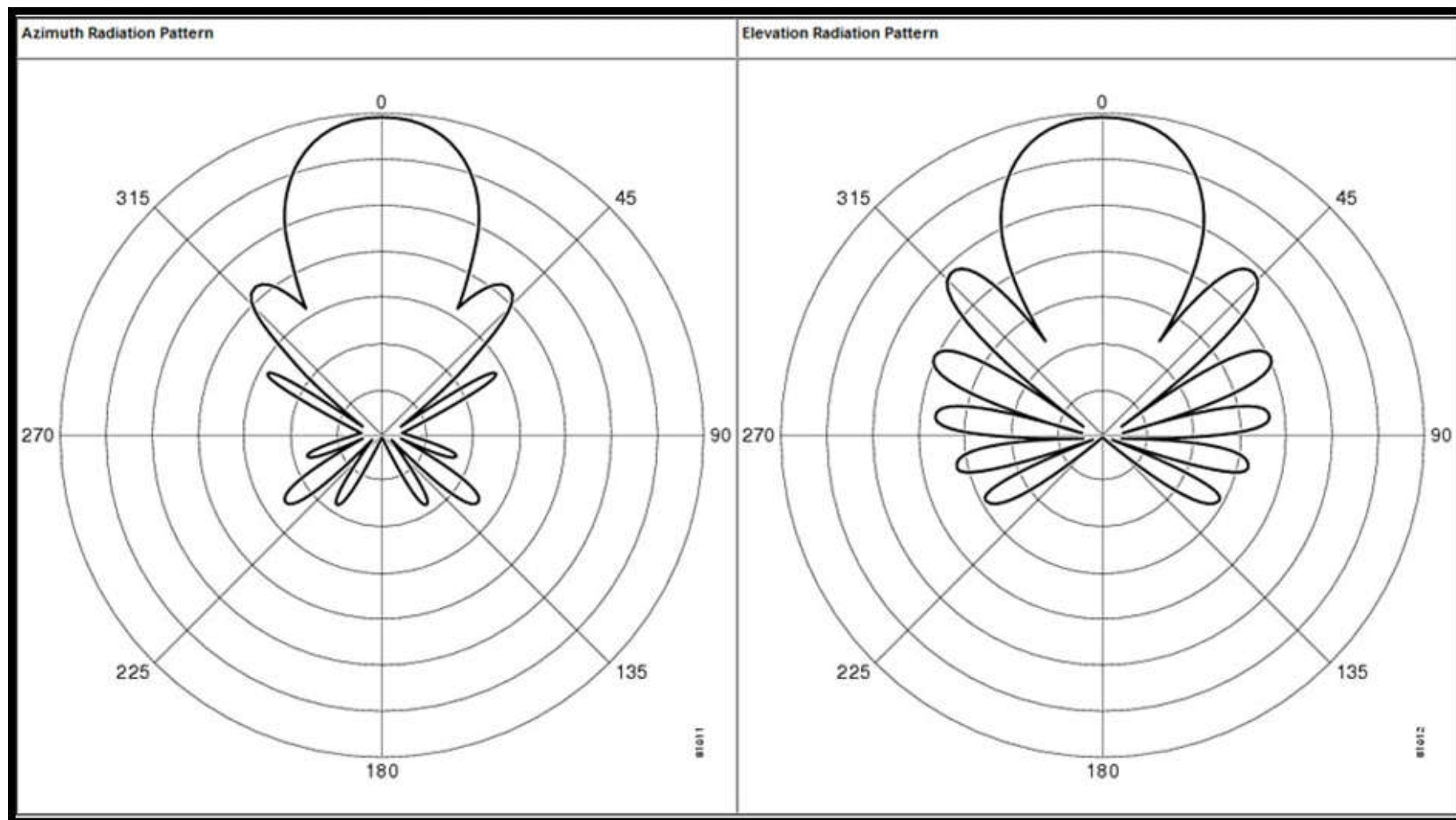
**Explanation**

**Explanation/Reference:**

Explanation:

**QUESTION 71**

Refer to the exhibit.



A wireless engineer has an antenna with the radiation pattern shown in the exhibit. What type of antenna is it?

- A. Patch
- B. Yagi
- C. Parabolic dish
- D. Dipole

E. Internal omni

**Correct Answer:** B

**Section:** (none)

**Explanation**

**Explanation/Reference:**

Explanation:

**QUESTION 72**

When reading a radiation pattern for an antenna, at which two drops in signal and power is the beamwidth measured? (Choose two.)

- A. 3 dB
- B. 6 dB
- C. 9 dB
- D. 10 dB
- E. 1/2 power
- F. 1/4 power
- G. 1/8 power
- H. 1/10 power

**Correct Answer:** AE

**Section:** (none)

**Explanation**

**Explanation/Reference:**

Explanation:

**QUESTION 73**

When calculating the link budget for a wireless point-to-point bridge, the engineer notices that one antenna has its gain marked as 2.85 dBd. With a 20-mW access point and 3-dBi loss for the cable, what is the approximate EIRP?

- A. 15 dBm
- B. 18 dBm
- C. 22 dBm
- D. 25 dBm

**Correct Answer:** A

**Section: (none)**

**Explanation**

**Explanation/Reference:**

Explanation:

**QUESTION 74**

Due to the terrain, a deployment requires a point-to-point wireless bridge to allow for network connectivity to a remote building. What 5GHz band would be permitted to use the highest power in the U.S.?

- A. U-NII-3
- B. U-NII-2 Extended
- C. U-NII-2
- D. U-NII-1

**Correct Answer: A**

**Section: (none)**

**Explanation**

**Explanation/Reference:**

Explanation:

**QUESTION 75**

A wireless engineer is designing a network for the London branch of a company. Which 5-GHz band allows the branch to use the highest EIRP?

- A. 2.4-GHz ISM
- B. UNII-1
- C. UNII-2
- D. UNII-2 Extended

**Correct Answer: D**

**Section: (none)**

**Explanation**

**Explanation/Reference:**

Explanation:

**QUESTION 76**

When using OFDM, how many subcarriers are devoted to carrying data?

- A. 4
- B. 12
- C. 44
- D. 48
- E. 52

**Correct Answer:** D

**Section:** (none)

**Explanation**

**Explanation/Reference:**

Explanation:

#### **QUESTION 77**

A company has all IEEE 802.11a/802.11g devices; however, its network administrator recommends installing 802.11n access points to provide greater performance. Which feature on an 802.11n AP provides better performance to legacy devices?

- A. channel aggregation
- B. transmit beam-forming
- C. maximal-ratio combining
- D. spatial multiplexing

**Correct Answer:** B

**Section:** (none)

**Explanation**

**Explanation/Reference:**

Explanation:

#### **QUESTION 78**

When roaming between APs in an ESS, which value changes?

- A. BSSID
- B. SSID
- C. VLAN
- D. IP range

**Correct Answer:** A

**Section:** (none)

**Explanation**

**Explanation/Reference:**

Explanation:

**QUESTION 79**

A customer is concerned about ease of wireless management. Which deployment model requires the highest administrative overhead to deploy and manage?

- A. autonomous
- B. local mode
- C. cloud
- D. converged

**Correct Answer:** A

**Section:** (none)

**Explanation**

**Explanation/Reference:**

Explanation:

**QUESTION 80**

Which architecture is used to divide the roles between the access point and the WLC when deploying a centralized wireless solution?

- A. Split MAC
- B. CAPWAP
- C. LWAPP
- D. Local MAC

**Correct Answer:** A

**Section:** (none)

**Explanation**

**Explanation/Reference:**

Explanation:

**QUESTION 81**

An autonomous AP maps the SSID to what on the wired network?



- A. BSSID
- B. VLAN
- C. QoS tag
- D. SG tag

**Correct Answer:** B

**Section:** (none)

**Explanation**

**Explanation/Reference:**

Explanation:

#### **QUESTION 82**

A customer is expecting wireless traffic in excess of 20 Gbps to traverse a single controller. Which wireless controller model fulfills this requirement?

- A. Cisco 5760 Wireless Controller
- B. Cisco Wireless Services Module 2
- C. Cisco 2504 Wireless Controller
- D. Cisco 8510 Wireless Controller
- E. Cisco 5500 Wireless Controller
- F. Cisco Virtual Wireless Controller

**Correct Answer:** A

**Section:** (none)

**Explanation**

**Explanation/Reference:**

Explanation:

#### **QUESTION 83**

An engineer is connecting a Cisco 5508 Wireless Controller that must connect to an out-of-band management network for management only. Which two options should be used for the port on the WLC and the cable type? (Choose two.)

- A. service port
- B. redundancy port
- C. console port
- D. distribution system port

- E. straight through cable
- F. crossover cable
- G. console cable

**Correct Answer:** AE

**Section:** (none)

**Explanation**

**Explanation/Reference:**

Explanation:

#### **QUESTION 84**

A user is unable to access a lobby administration web page when using a wireless laptop; however, the user can access the page with a wired desktop computer. Which management feature needs to be enabled on the WLC to allow laptop access?

- A. management via wireless
- B. dynamic interface management
- C. HTTP
- D. HTTPS
- E. TACACS
- F. SSH

**Correct Answer:** A

**Section:** (none)

**Explanation**

**Explanation/Reference:**

Explanation:

#### **QUESTION 85**

In version 8.0 code for CUWN, what interface can be assigned an IPv6 address?

- A. management
- B. dynamic
- C. AP-manager
- D. virtual
- E. service-port

**Correct Answer:** A

**Section:** (none)

**Explanation**

**Explanation/Reference:**

Explanation:

**QUESTION 86**

A network engineer is configuring a WLC running Cisco AireOS 8.0.100.0 for a company that uses IPv6. Which two interfaces can be configured with an IPv6 address? (Choose two.)

- A. management
- B. dynamic
- C. AP manager
- D. redundancy
- E. service

**Correct Answer:** AE

**Section:** (none)

**Explanation**

**Explanation/Reference:**

Explanation:

**QUESTION 87**

An engineer is deploying an autonomous AP, and the customer requests that all IEEE 802.11b data rates be disabled on the AP. Which interface must be amended to disable the 802.11b data rates on a Cisco Aironet 1252 Series Access Point?

- A. Dot11radio0
- B. Dot11radio1
- C. GigabitEthernet0
- D. BVI1

**Correct Answer:** A

**Section:** (none)

**Explanation**

**Explanation/Reference:**

Explanation:

**QUESTION 88**

After the initial deployment at a customer site, the master controller mode function was left enabled on the secondary controller after access points were primed and statically configured with primary, secondary, and tertiary controller failover. The guest anchor controller was also deployed in the architecture. The access points reboot after a power failure. Which controller will the access points associate to when the reboot process is completed?

- A. primary controller
- B. secondary controller
- C. tertiary controller
- D. guest anchor controller

**Correct Answer:** B

**Section:** (none)

**Explanation**

**Explanation/Reference:**

Explanation:

**QUESTION 89**

A remote site has requested that its wireless client traffic egress at the switch port of the access point. Which access point mode can be used?

- A. FlexConnect
- B. local
- C. monitor
- D. rogue detector
- E. SE-Connect

**Correct Answer:** A

**Section:** (none)

**Explanation**

**Explanation/Reference:**

Explanation:

**QUESTION 90**

Refer to the exhibit.

General

Security

QoS

Policy-Mapping

Layer 2

Layer 3

AAA Servers

Layer 2 Security [6](#)

WPA+WPA2

MAC Filtering [9](#) ☐

### Fast Transition

Fast Transition ☐

### Protected Management Frame

PMF

Disabled

### WPA+WPA2 Parameters

WPA Policy



WPA2 Policy-AES



### Authentication Key Management

802.1X

☐ Enable

CCKM

☐ Enable

PSK

☒ Enable

FT 802.1X

☐ Enable

An engineer is testing client connectivity and is unable to transmit or receive at IEEE 802.11n high throughput rates. Which two Layer 2 security configurations allow the client to successfully connect at 802.11n rates? (Choose two.)

- A. WPA2-AES 802.1x
- B. WPA2-TKIP PSK
- C. WPA-TKIP 802.1x
- D. Open
- E. 802.1x

**Correct Answer:** AD

**Section:** (none)

**Explanation**

**Explanation/Reference:**

Explanation:

#### **QUESTION 91**

A customer wants to use Cisco Prime Infrastructure to manage its current wireless infrastructure. The customer has 4 wireless controllers and 97 wireless access points. What is the minimum amount of licensing that is required on Cisco Prime Infrastructure to support the desired wireless infrastructure?

- A. 4 Lifecycle licenses and 125 Base licenses
- B. 100 Lifecycle licenses and 1 Base license
- C. 100 Lifecycle licenses and 4 Base licenses
- D. 125 Lifecycle licenses and 1 Base license

**Correct Answer:** B

**Section:** (none)

**Explanation**

**Explanation/Reference:**

Explanation:

#### **QUESTION 92**

A customer is reviewing Cisco Prime Infrastructure to identify malicious rogue access points that are operating within the customer environment. Which dashboard in Cisco Prime Infrastructure displays this information by default?

- A. Context Aware
- B. CleanAir

- C. Security
- D. General

**Correct Answer:** C

**Section:** (none)

**Explanation**

**Explanation/Reference:**

Explanation:

#### **QUESTION 93**

A customer is using the wireless controller GUI to back up the Cisco 5508 Wireless Controller configuration data. The controller is running IOS version 7.6 release. Which three transfer protocols are valid for conducting this transfer from the WLC? (Choose three.)

- A. FTP
- B. TFTP
- C. SFTP
- D. HTTP
- E. SCP
- F. Xmodem

**Correct Answer:** ABC

**Section:** (none)

**Explanation**

**Explanation/Reference:**

Explanation:

#### **QUESTION 94**

A customer who recently implemented Mac OS X Yosemite finds that the laptops have been autonegotiating the authentication protocols when performing RADIUS authentication to Cisco Identity Services Engine. What must the administrator do to statically set the correct settings for the Mac clients?

- A. Create a new network profile with the desired settings, using either the Apple iPhone Configuration Utility or Profile Manager and upload to all Mac OS X machines.
- B. Set the authentication configuration to use the desired settings under the System Preferences > Network > Advanced menu.
- C. Delete the SSID and have the users go through the authentication process again, this time selecting the settings during authentication.
- D. Select the SSID and change the settings to the desired configuration under Control Panel > Network > Wireless Networks and export to other machines.

**Correct Answer:** A

**Section: (none)**

**Explanation**

**Explanation/Reference:**

Explanation:

**QUESTION 95**

Refer to the exhibit.

```
*emWeb: Jan 15 15:18:34.818:  
%LOG-3-Q_IND: apf_site_override.c:2617  
Cannot find apgroup CISCO1
```

During deployment of a WLC on a customer site, the GUI log displayed this error message. What could be causing this error?

- A. An access point has been assigned to an AP group that has reached maximum capacity.
- B. An access point has been assigned to an AP group that has been deleted.
- C. An access point has been removed from an AP group and assigned to a FlexConnect AP group.
- D. An access point has been removed from an AP group and assigned to the default AP group.

**Correct Answer: B**

**Section: (none)**

**Explanation**

**Explanation/Reference:**

Explanation:

**QUESTION 96**

A customer suspects that a continuous transmitter is causing instability with the wireless clients that are operating on the 2.4-GHz wireless band. The customer is trying to determine which channel is being impacted by this transmitter. Which dashboard on the WLC GUI identifies this information?

- A. 802.11a/n - Air Quality Reports
- B. Clean Air - Worst Air Quality Report
- C. 802.11b/g/n - Interference Devices
- D. Statistics - Mobility Statistics



**Correct Answer:** C

**Section:** (none)

**Explanation**

**Explanation/Reference:**

Explanation:

**QUESTION 97**

A customer wants to analyze the data rates that are available to a corporate laptop in its wireless deployment. The customer wants a heat map that displays actual data and shows the data rates that are available to the client in different areas of its facility. When using AirMagnet Survey PRO, which type of survey provides the actual data rates?

- A. virtual
- B. predictive
- C. passive
- D. active

**Correct Answer:** D

**Section:** (none)

**Explanation**

**Explanation/Reference:**

Explanation:

**QUESTION 98**

On which two OSI layers does the IEEE focus in 802 standardization? (Choose two.)

- A. physical
- B. data-link
- C. network
- D. transport
- E. session
- F. presentation
- G. application

**Correct Answer:** AB

**Section:** (none)

**Explanation**

**Explanation/Reference:**

Explanation:

**QUESTION 99**

A customer wants to identify the amount of BSSID traffic that is propagating through its facility from neighboring networks. Which tool can be used to identify BSSID traffic in the facility?

- A. Wi-Fi scanner
- B. wireless attenuator
- C. RF jammer
- D. Cisco Identity Services Engine

**Correct Answer:** A

**Section:** (none)

**Explanation**

**Explanation/Reference:**

Explanation:

**QUESTION 100**

A customer is deploying the Cisco 5508 Wireless Controller in a unified wireless solution. Which command must be configured on the neighboring switch port if the management interface on the WLC is configured to send untagged traffic to ensure that management traffic utilizes VLAN 10?

- A. switchport trunk native vlan 10
- B. spanning-tree portfast
- C. switchport access vlan 10
- D. switchport trunk allowed vlan 10
- E. channel-group 10

**Correct Answer:** A

**Section:** (none)

**Explanation**

**Explanation/Reference:**

Explanation:

**QUESTION 101**

A customer has enabled the primary DNS server to return the correct controller IP address in response to a CISCO-CAPWAP-CONTROLLER.localdomain request

coming from new access points associating to the wireless network. The access points seem to still be receiving the wrong IP address and cannot associate to the primary controller. Which option explains why the access points are receiving the wrong IP information?

- A. The DHCP option 43 has an incorrect controller IP address configured.
- B. The DNS server must be configured to respond to CISCO-LWAPP-CONTROLLER.localdomain request.
- C. The controller and wireless action point need to be Layer 2 adjacent.
- D. The controller must be configured for DHCP option 15 request.

**Correct Answer:** A

**Section:** (none)

**Explanation**

**Explanation/Reference:**

Explanation:

#### **QUESTION 102**

An engineer has just deployed a Cisco Aironet 3702 Access Point with an access layer switch that supports IEEE 802.1af Power over Ethernet. How will the access points react to the wattage that is available in 802.1af?

- A. disable the BVI interface
- B. fail to boot in CAPWAP mode
- C. operate in 3x3 MIMO mode
- D. enable the 2.4-GHz radios with 40-MHz channel bonding

**Correct Answer:** C

**Section:** (none)

**Explanation**

**Explanation/Reference:**

Explanation:

#### **QUESTION 103**

A customer has a corporate SSID that is configured to authenticate against an ISE server to validate client credentials on the corporate SSID. The customer has a firewall logically positioned on the network between the WLC and the ACS server in the network architecture. Which port must the firewall allow to ensure that authentication can occur?

- A. 43
- B. 1812
- C. 5146

D. 8143

Correct Answer: B

Section: (none)

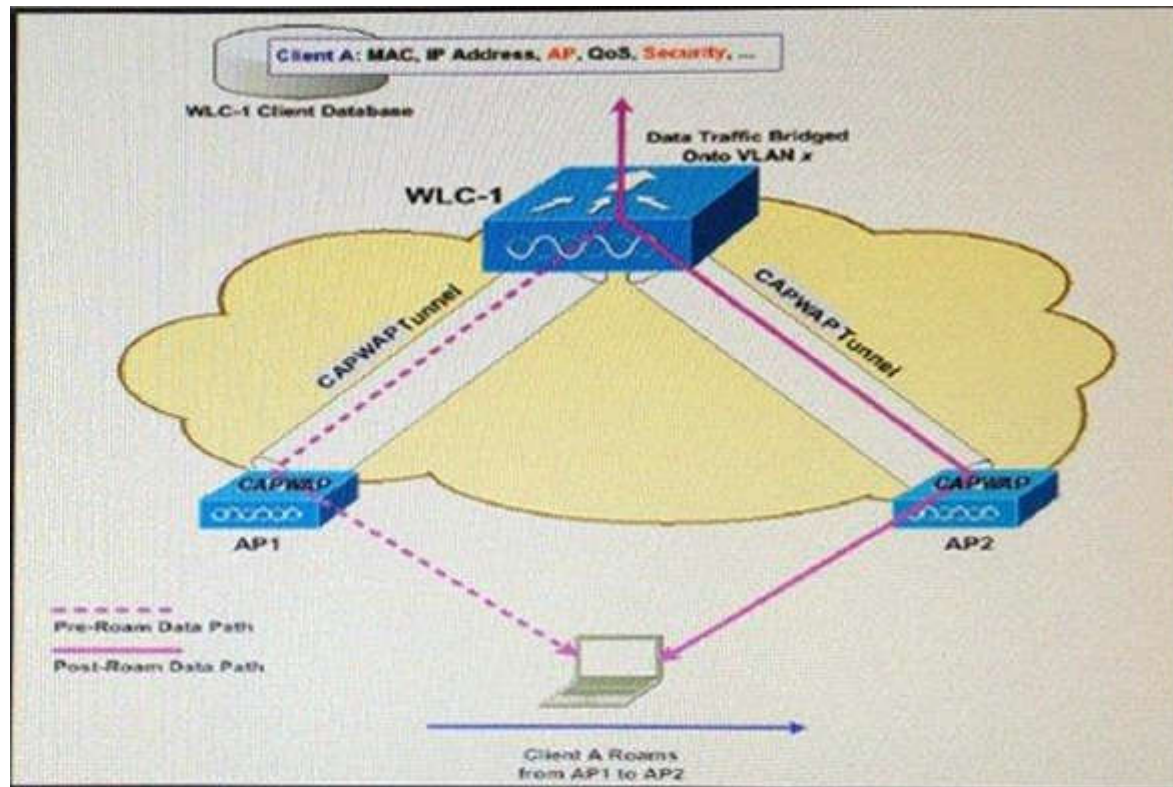
Explanation

Explanation/Reference:

Explanation:

#### QUESTION 104

Refer to the exhibit. Which wireless functions is the client experiencing?



A. Intra-controller Roaming

B. Layer 3 Roaming

- C. inter-controller Roaming
- D. inter-subnet Roaming

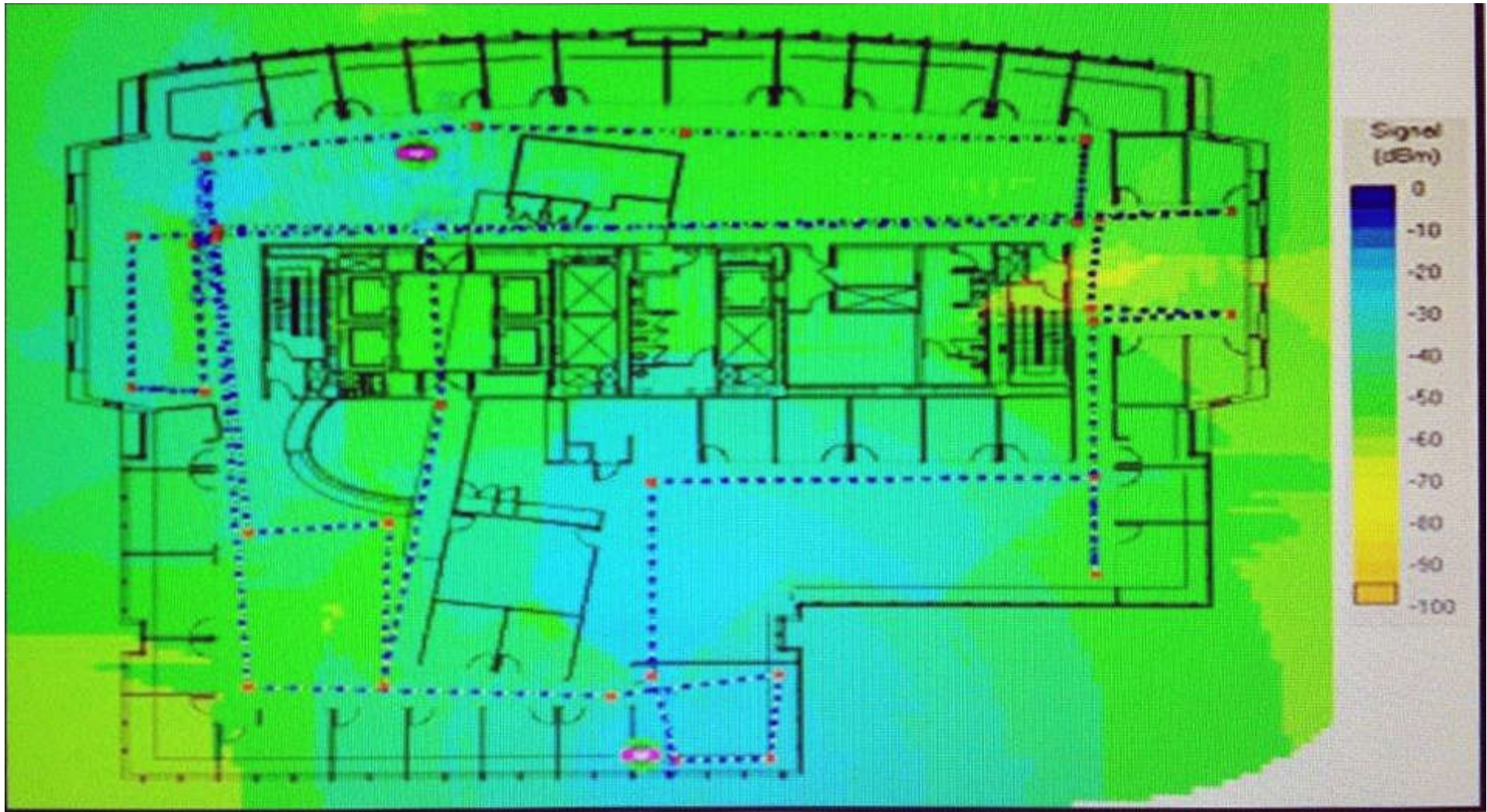
**Correct Answer:** A

**Section:** (none)

**Explanation**

**Explanation/Reference:**

**QUESTION 105**



Refer to the exhibit. The site in this AirMagnet Survey heat map is ready for which level of service?

- A. voice
- B. data
- C. location

D. RFID

**Correct Answer:** B

**Section:** (none)

**Explanation**

**Explanation/Reference:**

#### **QUESTION 106**

Following a WLC upgrade you want to check what version of code the access point is running. Where can you find this information?

- A. CLI > show sysinfo
- B. GUI > Monitor > Software Version
- C. CLI > show running configuration
- D. GUI > Wireless > Access point > General

**Correct Answer:** C

**Section:** (none)

**Explanation**

**Explanation/Reference:**

#### **QUESTION 107**

You are testing a new autonomous Cisco Aironet 1260 AP that has booted for the first time on the existing corporate network, which includes voice, data, and location services.

How do you reach the GUI of the AP?

- A. HTTP to 10.0.0.1.
- B. HTTPS to the DHCP address.
- C. HTTP to the DHCP address.
- D. HTTPS to 10.0.0.1.

**Correct Answer:** C

**Section:** (none)

**Explanation**

**Explanation/Reference:**

**QUESTION 108**

Which three operations does the lightweight access point manage in a split-MAC design? (Choose three.)

- A. association and re-association
- B. frame exchange and client handshake
- C. RF and mobility management
- D. beacons and probe responses
- E. MAC layer data encryption and decryption
- F. authentication and key management

**Correct Answer:** BDE

**Section:** (none)

**Explanation**

**Explanation/Reference:**

**QUESTION 109**

A network engineer is troubleshooting a LAP that is unable to join the controller and receives this message:

**LWAPP\_CLIENT\_ERROR\_DEBUG: No more AP manager IP addresses remain**

What does the log indicate?

- A. An AP manager has the same IP address as another AP manager.
- B. A LAP has the same IP address as the AP manager.
- C. Two or more LAPs have the same IP address.
- D. Two or more controllers have the same IP address.

**Correct Answer:** B

**Section:** (none)

**Explanation**

**Explanation/Reference:**



**QUESTION 110**

An engineer has been asked to upgrade the code on a WLC that is running Cisco AireOS 8.0. Which two protocols can be used to download the code file to the controller? (Choose two.)

- A. SNMPv2c
- B. FTP
- C. SNMPv3
- D. SFTP
- E. HTTPS

**Correct Answer:** BD

**Section:** (none)

**Explanation**

**Explanation/Reference:**

**QUESTION 111**

An engineer is gathering information for a wireless survey of a hospital. What two pieces of information must be collected for an active survey to access the outcome best suited for the facility? (Choose two.)

- A. type of devices present on the new wireless network
- B. utilization of Location Services or voice applications
- C. existing Network Switch types and model numbers
- D. use of wireless for secure records
- E. spectrum analysis to locate all the computer work stations

**Correct Answer:** AB

**Section:** (none)

**Explanation**

**Explanation/Reference:**

**QUESTION 112**

A controller is connected to a Cisco Catalyst switch. The switch port configuration looks like this:

```
interface GigabitEthernet 1/0/10
switchport
```

**switchport trunk encapsulation dot1q**  
**switchport trunk allowed vlan 1,20,30,50**  
**switchport trunk native vlan 20**  
**switchport mode trunk**

Which controller CLI command assigns its management interface to the native VLAN interface of the Cisco Catalyst switch?

- A. **config interface vlan management 20**
- B. **config interface vlan management 0**
- C. **config interface vlan management 1**
- D. **config interface vlan management 30**

**Correct Answer: B**

**Section: (none)**

**Explanation**

**Explanation/Reference:**

#### **QUESTION 113**

Which type of management tasks can be completed on a Cisco WLC remotely from a wireless client?

- A. All management and configuration tasks can be performed from a wireless client except for using **debug** commands.
- B. All management and configuration tasks, except uploads from and downloads to the Cisco WLC, are permitted.
- C. In the default configuration, no management or configuration is possible through the GUI on the Cisco WLS.
- D. The default configuration of the Cisco WLC allows only CLI access and then only the use of **show** commands, so no configuration is possible.

**Correct Answer: C**

**Section: (none)**

**Explanation**

**Explanation/Reference:**

#### **QUESTION 114**

Which description of the procedure for a lightweight AP to successfully establish a connection to a controller is true?

- A. The AP sends its certificate to the RADIUS server. The AP then authenticates the controller certificate as valid.
- B. The AP sends its certificate to the RADIUS server. The AP then authenticates the RADIUS certificate as valid.

- C. The AP authenticates the received Cisco WLC certificate as valid. The AP then sends its certificate to the controller.
- D. The AP sends its certificate to the controller. The AP then authenticates the received Cisco WLC certificate as valid.

**Correct Answer:** D

**Section:** (none)

**Explanation**

**Explanation/Reference:**

#### **QUESTION 115**

How many channels exist in the 2.4-GHz ISM band frequency space?

- A. 14
- B. 16
- C. 20
- D. 24

**Correct Answer:** A

**Section:** (none)

**Explanation**

**Explanation/Reference:**

#### **QUESTION 116**

What is the optimum 2.4 GHz wireless cell-overlap percentage for VoWLAN deployments?

- A. 10
- B. 20
- C. 15
- D. 5

**Correct Answer:** B

**Section:** (none)

**Explanation**

**Explanation/Reference:**

**QUESTION 117**

Which three primary components describe TKIP? (Choose three.)

- A. broadcast key rotation
- B. per-packet key hashing
- C. dynamic WEP
- D. message integrity check
- E. symmetric key cipher
- F. WPA2 enterprise mode

**Correct Answer:** ABD

**Section:** (none)

**Explanation**

**Explanation/Reference:**

**QUESTION 118**

Which two elements are needed to create a secure SSID on an autonomous AP? (Choose two.)

- A. SSID name
- B. WLC MAC address
- C. PSK
- D. LDAP server
- E. WLC IP

**Correct Answer:** AC

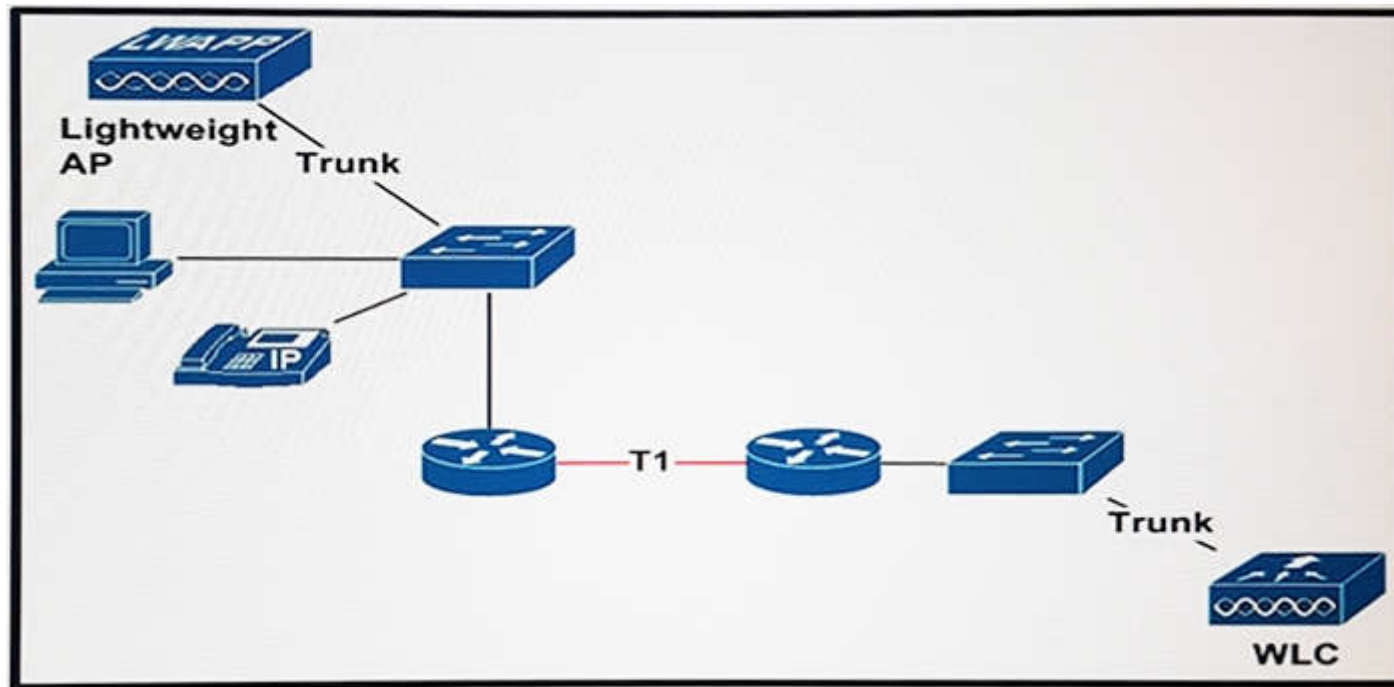
**Section:** (none)

**Explanation**

**Explanation/Reference:**

**QUESTION 119**

Refer to the exhibit.



An engineer is deploying lightweight access points for wireless services over a T1 connection. Which access point mode allows the traffic to be either switched at the AP port or tunneled back to the WLC?

- A. SE-Connect
- B. FlexConnect
- C. local
- D. monitor

**Correct Answer:** B

**Section:** (none)

**Explanation**

**Explanation/Reference:**

#### QUESTION 120

An engineer wants to set up WPA2 Enterprise using EAP-TLS and a remote RADIUS server. Which device(s) does the engineer specify the EAP type on?

- A. the authentication server only
- B. the supplicant and authenticator
- C. the supplicant and authentication server
- D. the authenticator and authentication server

**Correct Answer:** C

**Section:** (none)

**Explanation**

**Explanation/Reference:**

#### **QUESTION 121**

An enterprise needs their iPhones to connect to the EAP-TLS network. How should the devices be configured?

- A. Configure directly through the Settings application.
- B. Download the certificate from the web page then configure through the Settings application.
- C. Push the profile and certificate through Configuration Utility.
- D. Push the profile and certificate through iTunes.

**Correct Answer:** C

**Section:** (none)

**Explanation**

**Explanation/Reference:**

#### **QUESTION 122**

Which two WLC debug commands are appropriate to troubleshoot a wireless client that is associated to an AP? (Choose two.)

- A. **debug client <mac-address>**
- B. **debug capwap**
- C. **debug ap**
- D. **debug dot11**
- E. **debug dtls**

**Correct Answer:** AD

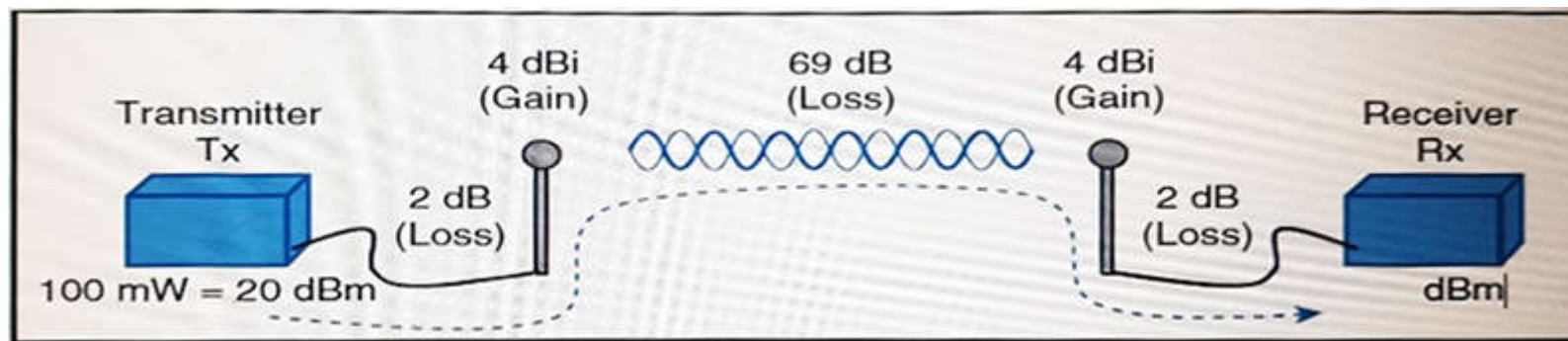
Section: (none)

Explanation

Explanation/Reference:

#### QUESTION 123

Refer to the exhibit.



Which option is the received signal power level at the receiver?

- A. -46
- B. -49.28
- C. -45
- D. -40.72

Correct Answer: C

Section: (none)

Explanation

Explanation/Reference:

#### QUESTION 124

The Cisco WLC administrator needs the guest client traffic to be sent via a tunnel to a specified controller in the DMZ, no matter which AP the guest user is connected to. What must be configured for a WLAN to achieve this requirement?

- A. asymmetric tunneling

- B. static mobility anchor
- C. symmetric tunneling
- D. FlexConnect

**Correct Answer:** B

**Section:** (none)

**Explanation**

**Explanation/Reference:**

#### **QUESTION 125**

Which option is the maximum power setting for an access point in any regulatory domain on a Cisco Wireless LAN Controller?

- A. 5
- B. 8
- C. 1
- D. 10

**Correct Answer:** C

**Section:** (none)

**Explanation**

**Explanation/Reference:**

#### **QUESTION 126**

Which two characteristics are components of mobility anchoring? (Choose two.)

- A. It is enabled as a global setting.
- B. Only one mobility anchor is allowed per WLAN.
- C. It is enabled on a per WLAN basis.
- D. Client traffic is tunneled to predefined WLC(s).
- E. It acts as master controller for a mobility group.

**Correct Answer:** CD

**Section:** (none)

**Explanation**



**Explanation/Reference:**

**QUESTION 127**

A client wants to implement an enterprise WLAN solution with the minimum hardware deployed onsite. What solution fulfills this requirement?

- A. converged
- B. centralized
- C. autonomous
- D. cloud

**Correct Answer: C**

**Section: (none)**

**Explanation**

**Explanation/Reference:**

**QUESTION 128**

If an antenna has a dBd of 8.6, what is the dBi value?

- A. 8.6
- B. 6.46
- C. 10.74
- D. 6.2

**Correct Answer: C**

**Section: (none)**

**Explanation**

**Explanation/Reference:**

**QUESTION 129**

Which governing body analyzes the applications and environment in which wireless networks are used?

- A. Wi-Fi Alliance
- B. IEEE

- C. ETSI
- D. FCC

**Correct Answer:** B

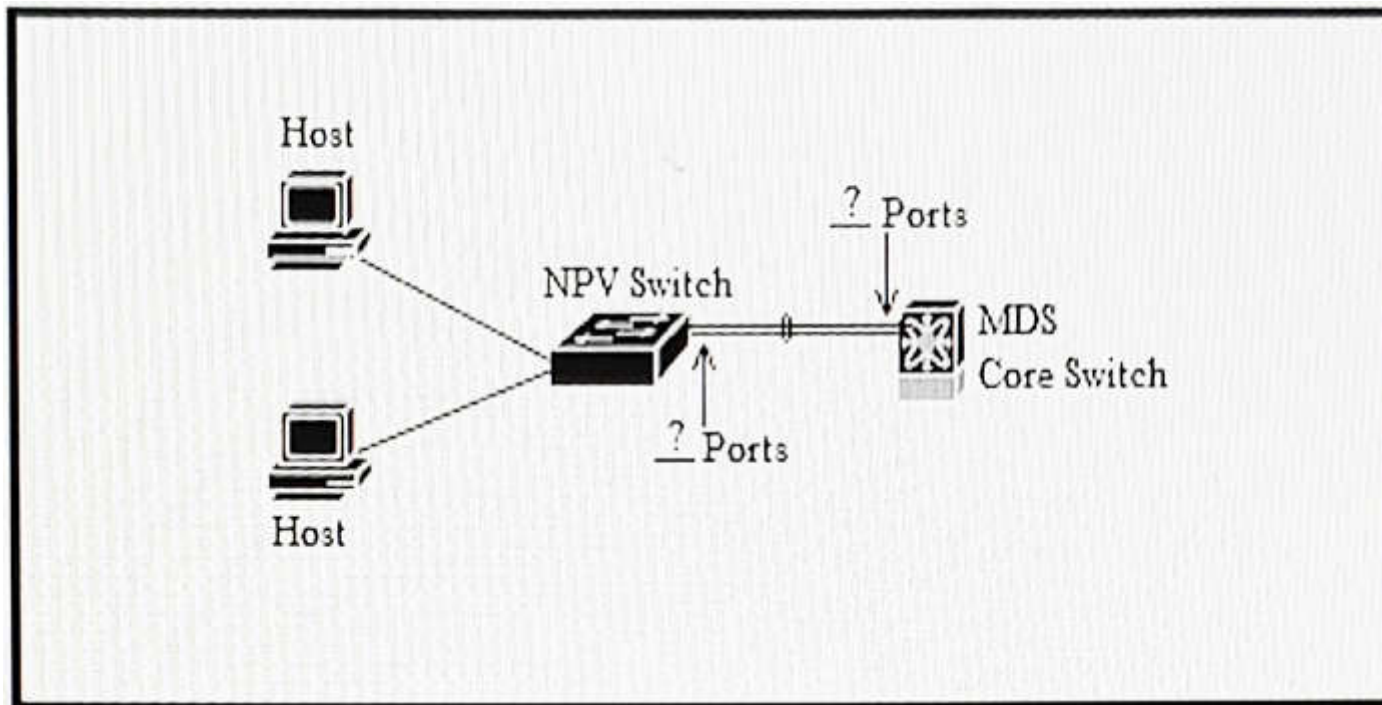
**Section:** (none)

**Explanation**

**Explanation/Reference:**

**QUESTION 130**

Refer to the exhibit.



An engineer is implementing a new network design that includes a port channel to connect an MDS core switch and an VPN switch. Which two Fibre Channel port types must be used to create the Fibre Channel port channel? (Choose two.)

- A. NL Port
- B. F Port
- C. NP Port
- D. E Port
- E. N Port
- F. TL Port

**Correct Answer:** BC

**Section:** (none)

**Explanation**

**Explanation/Reference:**

#### **QUESTION 131**

Periodically, Radio Resource Management can reconfigure the wireless network for best efficiency. Which two functions can be changed to meet network demands? (Choose two.)

- A. Remove clients that use too much bandwidth.
- B. Transmit Power Control
- C. Disable AP radios that do not provide adequate coverage.
- D. Change channels to non-country channels if needed
- E. Radio Monitoring for noise and interference.

**Correct Answer:** BE

**Section:** (none)

**Explanation**

**Explanation/Reference:**

#### **QUESTION 132**

Which three configuration elements must match for a client to successfully associate to a standalone AP? (Choose three.)

- A. BVI subnet
- B. PSK
- C. AP name
- D. SSID

- E. encryption method
- F. gateway IP

**Correct Answer:** BDE

**Section:** (none)

**Explanation**

**Explanation/Reference:**

### **QUESTION 133**

Which option lists the client configurations steps that must be completed to have an Apple iOS device joined in a hidden SSID?

- A. Settings > WiFi > Join Known Networks.
- B. Settings > WiFi > Then tap the name of the SSID you want to connect to.
- C. Settings > WiFi > Other > Then configure the SSID parameters.
- D. Settings > WiFi > Disable/Disable wifi, then select the hidden SSID from the list of seen SSIDs.

**Correct Answer:** C

**Section:** (none)

**Explanation**

**Explanation/Reference:**

### **QUESTION 134**

Which two statements about the requirements to configure intercontroller roaming are true? (Choose two.)

- A. The same AP manager interface is configured across controllers.
- B. The same mobility domain names are configured across controllers.
- C. The same RF group names are configured across controllers.
- D. The same virtual interface is configured across controllers.
- E. The same controller hardware version is configured across controllers.

**Correct Answer:** BD

**Section:** (none)

**Explanation**

**Explanation/Reference:**

**QUESTION 135**

In a network with a deployed Cisco WLC, which two entities must be configured with the shared secret key for 802.1X authentication? (Choose two.)

- A. RADIUS server
- B. wireless client
- C. AP
- D. WLC
- E. supplicant

**Correct Answer:** AD

**Section:** (none)

**Explanation**

**Explanation/Reference:**

**QUESTION 136**

Which purpose does a spectrum analyzer serve during a site survey?

- A. Detect and measure RF energy on a frequency.
- B. Identify and monitor rogue APs in the environment
- C. Capture and save RF traffic to analyze it offline.
- D. Generate a list of interference reports.

**Correct Answer:** A

**Section:** (none)

**Explanation**

**Explanation/Reference:**

**QUESTION 137**

Which two options are requirements of real-time applications? (Choose two.)

- A. voice
- B. high packet loss
- C. web browsing

- D. low jitter
- E. low latency

**Correct Answer:** DE

**Section:** (none)

**Explanation**

**Explanation/Reference:**

#### **QUESTION 138**

What is the European Standard equivalent of the FCC?

- A. IEEE
- B. ISM
- C. ETSI
- D. ITU

**Correct Answer:** C

**Section:** (none)

**Explanation**

**Explanation/Reference:**

#### **QUESTION 139**

While undergoing a security audit, a network administrator is told to set up the WLANs with at least 128-bit encryption but also keeping the 802.11n speeds. What WLAN configuration would meet the requirements?

- A. Static WEP
- B. WPA-TKIP
- C. WPA2-AES
- D. CKIP

**Correct Answer:** C

**Section:** (none)

**Explanation**

**Explanation/Reference:**

**QUESTION 140**

Which is recommended minimum SNR for a data cell with a data rate of 54 Mb/s?

- A. 10
- B. 25
- C. 4
- D. 6

**Correct Answer:** B

**Section:** (none)

**Explanation**

**Explanation/Reference:**

**QUESTION 141**

On witch tab on the WLC web interface can the administrator change the AP power level?

- A. WLAN
- B. Management
- C. Controller
- D. Wireless

**Correct Answer:** D

**Section:** (none)

**Explanation**

**Explanation/Reference:**

**QUESTION 142**

Which two Cisco WLC management-access methods are available as the default setting? (Choose two.)

- A. Telnet
- B. HTTP
- C. SNMP
- D. SSH

E. HTTPS

**Correct Answer:** DE

**Section:** (none)

**Explanation**

**Explanation/Reference:**

**QUESTION 143**

Which tool can be used for active and passive site surveys?

- A. Fluke Networks AirMagnet Planner
- B. Ekahau Site Survey
- C. Fluke Networks AirMagnet Survey Pro
- D. Cisco Predictive RF Planner

**Correct Answer:** C

**Section:** (none)

**Explanation**

**Explanation/Reference:**

**QUESTION 144**

Which command is used to upgrade the operational code when upgrading a Cisco IOS-XE WLC?

- A. **software install source switch**
- B. **software install file path:code.bin**
- C. **software tftp://code.bin flash:/code.bin**
- D. **software expand running**

**Correct Answer:** B

**Section:** (none)

**Explanation**

**Explanation/Reference:**



**QUESTION 145**

Which three parameters must be configured for local EAP-FAST on the controller? (Choose three.)

- A. PAC
- B. client key
- C. NTP source
- D. TTL for PAC
- E. server key
- F. authority ID and information

**Correct Answer:** DEF

**Section:** (none)

**Explanation**

**Explanation/Reference:**

**QUESTION 146**

During which type of survey does the surveyor interact with the infrastructure?

- A. planning
- B. active
- C. passive
- D. predictive

**Correct Answer:** B

**Section:** (none)

**Explanation**

**Explanation/Reference:**

**QUESTION 147**

A company wants to implement wireless in all 20 remote office locations and wants centralized management of these remote sites. What application would meet the requirements?

- A. Cisco autonomous access points in FlexConnect mode
- B. Cisco point- to multi-point wireless bridging

- C. Split MAC architecture utilizing CAPWAP and WLC
- D. Control and Provisioning of Wireless Access Points

**Correct Answer:** C

**Section:** (none)

**Explanation**

**Explanation/Reference:**

#### QUESTION 148

Refer to the exhibit.



Which administrator role applies when the user logs into the Cisco Wireless LAN Controller?

- A. ReadOnly
- B. ReadWrite
- C. LobbyAdmin
- D. LocalAdmin

**Correct Answer:** C

**Section:** (none)

**Explanation**

**Explanation/Reference:**

**QUESTION 149**

Which signal does Cisco recommend using at the cell edge when performing a site survey for VoWLAN applications?

- A. -56 dBm
- B. -67 dBm
- C. -78 dBm
- D. -85 dBm

**Correct Answer: B**

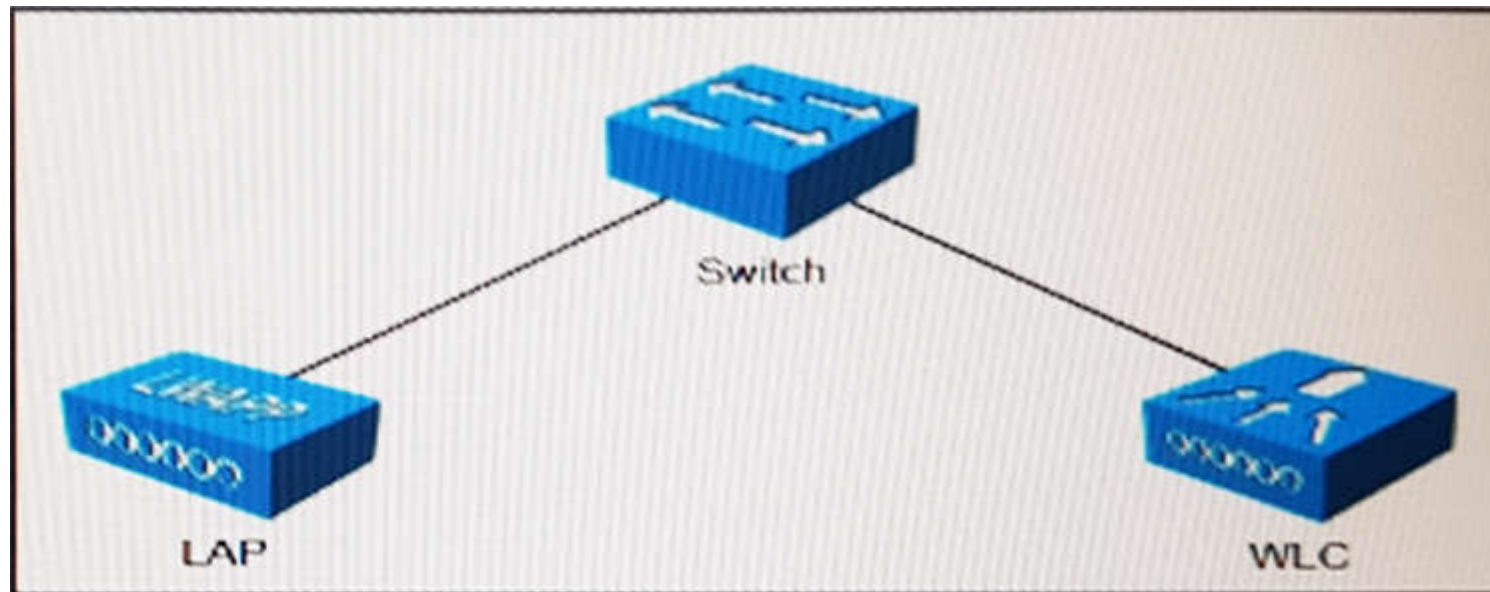
**Section: (none)**

**Explanation**

**Explanation/Reference:**

**QUESTION 150**

Refer to the exhibit.



Which three switch port types are valid for these connections? (Choose three.)

- A. routed port
- B. port-channel access
- C. access
- D. trunk
- E. port-channel trunk
- F. port-channel

**Correct Answer:** CDE

**Section:** (none)

**Explanation**

**Explanation/Reference:**

#### **QUESTION 151**

Which three criteria are used when choosing the type of external antenna to connect to an indoor AP? (Choose three.)

- A. potential interferers
- B. AP radio frequency
- C. PoE draw
- D. signal coverage area
- E. antenna manufacturer
- F. number of SSIDs

**Correct Answer:** ABD

**Section:** (none)

**Explanation**

**Explanation/Reference:**

#### **QUESTION 152**

A customer wants to implement a policy on a guest WLAN, in which clients must accept the company wireless policy and enter an email address to access the guest network. The company does not have access to RADIUS servers and wants the WLAN to use open Layer 2 security. Which Layer 3 security web policy must be enabled to meet these criteria?

- A. authentication
- B. web authorization on MAC filter failure
- C. conditional web redirect
- D. web pass-through

**Correct Answer:** D

**Section:** (none)

**Explanation**

**Explanation/Reference:**

### **QUESTION 153**

Which two options are limitations when configuring basic security on an autonomous AP using the express security page setup? (Choose two.)

- A. Delete all the SSIDs.
- B. Edit the SSIDs.
- C. You cannot change the default SSID.
- D. You need multiple SSIDs.
- E. Use multiple authentication servers.

**Correct Answer:** BE

**Section:** (none)

**Explanation**

**Explanation/Reference:**

### **QUESTION 154**

The IEEE 802.11n standard provides 40-MHz channels, improved MAC efficiency, and MIMO. Which three elements define the 802.11n implementation of MIMO? (Choose three.)

- A. dynamic frequency selection
- B. transmit beam forming
- C. channel bonding
- D. spatial multiplexing
- E. maximal ratio combining
- F. packet aggregation

**Correct Answer:** BDE

**Section:** (none)

**Explanation**

**Explanation/Reference:**

**QUESTION 155**

How many types of control frames are only used in PCF mode?

- A. 1
- B. 2
- C. 3
- D. 4

**Correct Answer:** C

**Section:** (none)

**Explanation**

**Explanation/Reference:**

**QUESTION 156**

An AP using version 8.0 broadcasts a Layer 3 CAPWAP discovery message on the local IP subnet.

Which step does the AP take next?

- A. Send a discovery request using locally stored information on the AP.
- B. Determine if the controller responses include the primary controller.
- C. Send a discovery request using DNS.
- D. Send a discovery request using DHCP option 43.

**Correct Answer:** A

**Section:** (none)

**Explanation**

**Explanation/Reference:**

**QUESTION 157**

You must resolve an issue in which an access point is not joining a controller. Which command can help you to troubleshoot the issue?

- A. **debug enable ap-name** from the AP
- B. **debug capwap events enable** from the AP
- C. **debug enable ap-name** from the controller
- D. **debug capwap events enable** from the controller

**Correct Answer:** D

**Section:** (none)

**Explanation**

**Explanation/Reference:**

**QUESTION 158**

When configuring a WLC to support multiple WLANs, which type of interface must be created?

- A. dynamic
- B. ap-manager
- C. virtual
- D. management

**Correct Answer:** A

**Section:** (none)

**Explanation**

**Explanation/Reference:**

**QUESTION 159**

Which three statements must be true for Cisco WLC to support roaming? (Choose three.)

- A. Controllers are in the same mobility group.
- B. Controllers operate in different LWAPP modes.
- C. ACLs are the same.
- D. Virtual interface IP addresses are the same.

- E. Controllers have different versions of code.
- F. Controllers need to have the same hostname.

**Correct Answer:** ADF

**Section:** (none)

**Explanation**

**Explanation/Reference:**

#### **QUESTION 160**

Which two access point modes support infrastructure MFP? (Choose two.)

- A. sniffer
- B. rogue detector
- C. bridge
- D. local
- E. FlexConnect

**Correct Answer:** DE

**Section:** (none)

**Explanation**

**Explanation/Reference:**

#### **QUESTION 161**

Which two methods of authentication are available for Local EAP?

- A. LDAP and RADIUS
- B. Local and TACASS
- C. LDAP and Local
- D. Local and RADIUS

**Correct Answer:** C

**Section:** (none)

**Explanation**

**Explanation/Reference:**



**QUESTION 162**

Which CAPWAP AP management-access method is available as the default setting?

- A. the console port and SSH
- B. only the console port
- C. SSH only
- D. the console port, SSH, and HTTPS

**Correct Answer:** B

**Section:** (none)

**Explanation**

**Explanation/Reference:**

**QUESTION 163**

An access point named Cisco AP is configured on a wireless controller. Which command must you use in the controller to view access point system messages?

- A. show ap eventlog Cisco\_AP
- B. debug ap eventlog Cisco\_AP
- C. config logging Cisco\_AP
- D. show logging

**Correct Answer:** A

**Section:** (none)

**Explanation**

**Explanation/Reference:**

**QUESTION 164**

When using multiple SSIDs on a FlexConnect AP in local switching mode, how does the traffic of each SSID reach the 802.3 network?

- A. provide routing between them at the core so that the SSIDs can reach the internet
- B. configure 802.1q trunking on the Ethernet switch port that is connected to the AP
- C. configure the SSIDs on the WLC and it will regulate the traffic based on traffic type
- D. configure ACLs at the switch port that will allow all desired SSIDs to pass traffic

**Correct Answer:** B

**Section:** (none)

**Explanation**

**Explanation/Reference:**

**QUESTION 165**

When an AP is in its default configuration mode and connects to a Cisco WLC, which methods are available for remote management access to an AP?

- A. SSH and Telnet are available only after configuration by a Cisco WLC version 7.0.
- B. SSH and Telnet
- C. HTTPS, and SSH
- D. SSH only

**Correct Answer:** A

**Section:** (none)

**Explanation**

**Explanation/Reference:**

**QUESTION 166**

What is the channel width of an 802.11b wireless channel?

- A. 10 MHz
- B. 20 MHz
- C. 5 MHz
- D. 22 MHz

**Correct Answer:** D

**Section:** (none)

**Explanation**

**Explanation/Reference:**

**QUESTION 167**

Which three access point modes service clients? (Choose three.)

- A. FlexConnect
- B. bridge
- C. sniffer
- D. local
- E. monitor
- F. SE-Connect

**Correct Answer:** ABD

**Section:** (none)

**Explanation**

**Explanation/Reference:**

#### **QUESTION 168**

Which software application tool can be used for verification of signal strength?

- A. in SSIDer
- B. LANDnav
- C. WLC-EAP
- D. ICMP

**Correct Answer:** A

**Section:** (none)

**Explanation**

**Explanation/Reference:**

Reference:

<https://www.cisco.com/c/en/us/support/docs/wireless/5500-series-wireless-controllers/116057-site-survey-guidelines-wlan-00.html#anc35>

#### **QUESTION 169**

Refer to the exhibit.



- A. vertically polarized sector
- B. dipole
- C. diversity patch
- D. directional dish

**Correct Answer:** D

**Section:** (none)

**Explanation**

**Explanation/Reference:**

#### **QUESTION 170**

Which two are considered as characteristics of the original 802.11 protocol? (Choose two.)

- A. The most common deployment is three non-overlapping channels that are 20 MHz wide.
- B. Defined FHSS and OFDM as possible methods for modulation.
- C. The most common deployment is 6 non-overlapping channels that are 20 MHz wide.
- D. Designed to operate in the 5 GHz ISM frequency spectrum.
- E. Defined DSSS and FHSS as possible methods for modulation.

**Correct Answer:** AB

**Section:** (none)

**Explanation**

**Explanation/Reference:**

#### **QUESTION 171**

Which two ports are used by default when configuring RADIUS for external authentication? (Choose two.)

- A. 1813
- B. 1846
- C. 1645
- D. 1812
- E. 1845
- F. 1646

**Correct Answer:** CD

**Section:** (none)

**Explanation**

**Explanation/Reference:**

**QUESTION 172**

Which statement about a wireless client connecting to a network with a hidden SSID is true?

- A. The client must install the 802.1X certificate with encrypted SSID.
- B. The client will be unable to connect.
- C. The SSID needs to be entered manually and is case-sensitive.
- D. The SSID needs to be entered manually and is not case-sensitive.

**Correct Answer:** C

**Section:** (none)

**Explanation**

**Explanation/Reference:**

**QUESTION 173**

Which framework of services is used to gather over the air information for the Neighbor Discovery Protocol, load, interference, and noise?

- A. RRM
- B. BSSID
- C. EIRP
- D. SNR

**Correct Answer:** A

**Section:** (none)

**Explanation**

**Explanation/Reference:**

Reference: [https://www.cisco.com/c/en/us/td/docs/wireless/controller/technotes/8-1/mobility\\_express/b\\_RRM\\_White\\_Paper/b\\_RRM\\_White\\_Paper\\_chapter\\_01.html](https://www.cisco.com/c/en/us/td/docs/wireless/controller/technotes/8-1/mobility_express/b_RRM_White_Paper/b_RRM_White_Paper_chapter_01.html)

**QUESTION 174**

An engineer removed an antenna that was providing 3dB of gain and replaced it with one that provides 16 dB of gain. How has the power level changed?

- A. 20 times stronger
- B. 16 times stronger
- C. 20 times weaker
- D. 16 times weaker

**Correct Answer:** A

**Section:** (none)

**Explanation**

**Explanation/Reference:**

#### **QUESTION 175**

Which option describes the major capability of mobility groups?

- A. allowing for seamless client roaming and WLC redundancy
- B. helping to discover rogue APs
- C. allowing for seamless client roaming only
- D. helping to restrict clients to a specific subnet

**Correct Answer:** A

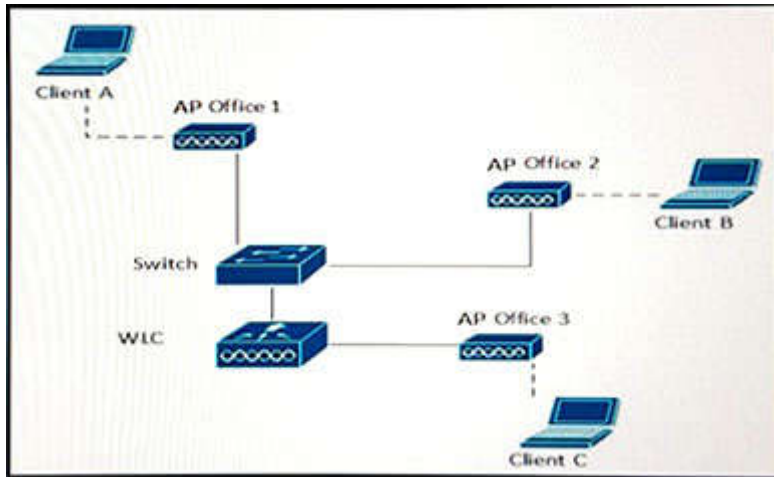
**Section:** (none)

**Explanation**

**Explanation/Reference:**

#### **QUESTION 176**

Refer to the exhibit.



A company added a Cisco Wireless LAN Controller to the network and converted all APs to lightweight APs. What is the hop order of the data packets when traveling from Client A to Client B, if the APs are in local mode?

- A. AP Office 1, Switch, WLC, Switch, AP Office 2
- B. AP Office 1, WLC, AP Office 2
- C. AP Office 1, WLC, Switch, AP Office 2
- D. AP Office 1, Switch, WLC, AP Office 2

**Correct Answer:** A

**Section:** (none)

**Explanation**

**Explanation/Reference:**

#### QUESTION 177

Which statement about the impact of configuring a single SSID to support TKIP and AES encryption simultaneously is true?

- A. The overhead associated with supporting both encryption methods significantly degrades client throughput.
- B. Some wireless client drivers might not handle complex SSID settings and may be unable to associate to the WLAN.
- C. This configuration is unsupported and the Cisco Wireless Control System generates alarms continuously until the configuration is corrected.
- D. This configuration is common for migrating from WPA to WPA2. No problem is associated with using this configuration.



**Correct Answer:** B

**Section:** (none)

**Explanation**

**Explanation/Reference:**

Explanation:

AES encryption uses hardware so there is almost no overhead when using it. TKIP is based on software. So when we support both TKIP and AES the client throughput will not significantly degrade -> A is not correct.

When choosing both AES and TKIP, the router will support both encryption algorithms. Because not all wireless NICs support AES, some only support TKIP, so this option is probably the best choice -> B is not correct.

As the picture below, Cisco Wireless Control System does support both simultaneously -> C is not correct.

#### **QUESTION 178**

End-to-end encryption is a management requirement for a wireless deployment. When importing the WLCs into Cisco Prime infrastructure 2.0, which two options represent the version of SNMP and remote access parameter that fulfill this requirement? (Choose two.)

- A. HTTPS
- B. SNMPv3
- C. SNMPv2c
- D. SNMPv1
- E. SSH

**Correct Answer:** AB

**Section:** (none)

**Explanation**

**Explanation/Reference:**

#### **QUESTION 179**

Refer to the exhibit.

```
version 12.4
no service pad
service timestamps debug datetime msec
service timestamps log datetime msec
service password-encryption
!
hostname AAP1
!
logging rate-limit console 9
enable secret 5 $1$QNUK$tp4V77o1g3F/85LiW4Izg/
!
no aaa new-model
ip domain name alnetlab.local
!
!
dot11 syslog
!
dot11 ssid Guest-01
    vlan 110
    authentication open
    guest-mode
```

A customer with ID28720486 has set up an autonomous access point with a single broadcast SSID on the 2.4-GHz radio and requested that an engineer add an additional SSID to the 2.4-GHz radio. Given the output, what should be configured to implement the new SSID?

- A. the new SSID on the 5-GHz radio
- B. **dot11 mbssid** globally and **mbssid mode** under the SSIDs
- C. **guest-mode** on the dot11 radio interface
- D. **guest-mode** under the new SSID

**Correct Answer:** B

**Section:** (none)

**Explanation**

**Explanation/Reference:**

#### QUESTION 180

A wireless engineer with ID28720486 is troubleshooting an RF issue. Which device in the lightweight WLAN architecture is responsible for RF management?

- A. Prime Infrastructure
- B. WLC

- C. Lightweight access point
- D. MSE

**Correct Answer:** B

**Section:** (none)

**Explanation**

**Explanation/Reference:**

#### **QUESTION 181**

The network administrator wants an access point to be able to find rogue APs and to support location-based services. Which AP mode meets this requirement while having the radios up and preventing client connections?

- A. rogue-detection
- B. sniffer
- C. FlexConnect
- D. monitor

**Correct Answer:** D

**Section:** (none)

**Explanation**

**Explanation/Reference:**

Explanation:

If you have enough access points, you can even dedicate an AP to making it's only job picking up other networks, this a mode that the AP can be in and is called "Monitor Mode" to change an AP to monitor mode, navigate to the following on the WLC:

This will place the AP into a dedicated monitor mode, it will not service clients but will sit and scan for you.

#### **QUESTION 182**

A wireless client with ID28720486 is trying to connect to wireless network. What must be configured on the client side to connect to an infrastructure WLAN that broadcasts its SSID and uses WPA2 PSK?

- A. PSK
- B. type of EAP protocol
- C. username and password
- D. channel number

**Correct Answer:** A

**Section: (none)**

**Explanation**

**Explanation/Reference:**

**QUESTION 183**

Which CLI command is used on a Cisco WLC to troubleshoot mobility, rogue detection, and load- balancing events?

- A. debug dot11
- B. debug capwap all
- C. show dot11 details
- D. show capwap details

**Correct Answer: A**

**Section: (none)**

**Explanation**

**Explanation/Reference:**

Explanation:

[http://www.cisco.com/c/en/us/td/docs/wireless/controller/7-3/command/reference/cr73/b\\_cr\\_7-3\\_chapter\\_010.html#wp3619872221](http://www.cisco.com/c/en/us/td/docs/wireless/controller/7-3/command/reference/cr73/b_cr_7-3_chapter_010.html#wp3619872221)

**QUESTION 184**

Which three WLC debug commands are appropriate to troubleshoot a wireless client that is associated to an AP? (Choose three.)

- A. debug capwap
- B. debug mac addr
- C. debug dot11
- D. debug dhcp
- E. debug ap
- F. debug dtls

**Correct Answer: BCD**

**Section: (none)**

**Explanation**

**Explanation/Reference:**

Explanation:

See reference link for associated WLC debug commands.

"WLC Debug and Show Commands"

<http://www.cisco.com/c/en/us/support/docs/wireless/4400-series-wireless-lan-controllers/112064-wlc-commands.html>

**QUESTION 185**

Which method of encryption does the 802.11i standard use?

- A. AES/CCMP
- B. AES/ECB
- C. AES/OCB
- D. TKIP
- E. both AES/ECB and AES/CCMP

**Correct Answer:** A

**Section:** (none)

**Explanation**

**Explanation/Reference:**

Explanation:

Counter Mode Cipher Block Chaining Message Authentication Code Protocol, Counter Mode CBC-MAC Protocol or simply CCMP (CCM mode Protocol) is an encryption protocol designed for Wireless LAN products that implement the standards of the IEEE 802.11i amendment to the original IEEE 802.11 standard. CCMP is an enhanced data cryptographic encapsulation mechanism designed for data confidentiality and based upon the Counter Mode with CBC -MAC (CCM) of the AES standard. It was created to address the vulnerabilities presented by WEP, a dated, insecure protocol.

<http://en.wikipedia.org/wiki/CCMP>

**QUESTION 186**

Which type of authentication is used initially by a controller-based AP so that a guest client can get an IP address?

- A. 802.1x
- B. EAP
- C. LEAP
- D. open authentication
- E. TLS
- F. SSL

**Correct Answer:** D

**Section:** (none)

**Explanation**

**Explanation/Reference:**

Explanation:

Open authentication allows any device to authenticate and then attempt to communicate with the access point. Using open authentication, any wireless device can authenticate with the access point, but the device can communicate only if its Wired Equivalent Privacy (WEP) keys match the access point's WEP keys. Devices that are not using WEP do not attempt to authenticate with an access point that is using WEP. Open authentication does not rely on a RADIUS server on your network. <http://www.cisco.com/c/en/us/td/docs/routers/access/wireless/software/guide/SecurityAuthenticationTypes.html#wp1035025>

**QUESTION 187**

What is the maximum number of lightweight APs that can be supported from a single Cisco WCS Navigator management console with Cisco WCS and Cisco WLC running version 7.0 code?

- A. 10,000
- B. 20,000
- C. 25,000
- D. 30,000
- E. 60,000

**Correct Answer:** D

**Section:** (none)

**Explanation**

**Explanation/Reference:**

Explanation:

The Cisco WCS Navigator supports partitioning of the unified wireless network at the management level. It supports up to 20 Cisco WCS management platforms with manageability of up to 30,000 Cisco Aironet lightweight access points from a single management console. It runs on a server platform with an embedded database.

**QUESTION 188**

Which two tasks does RRM routinely perform? (Choose two.)

- A. antenna selection
- B. AP address assignment
- C. channel assignment
- D. encryption method assignment
- E. transmit power control

**Correct Answer:** CE

**Section: (none)**

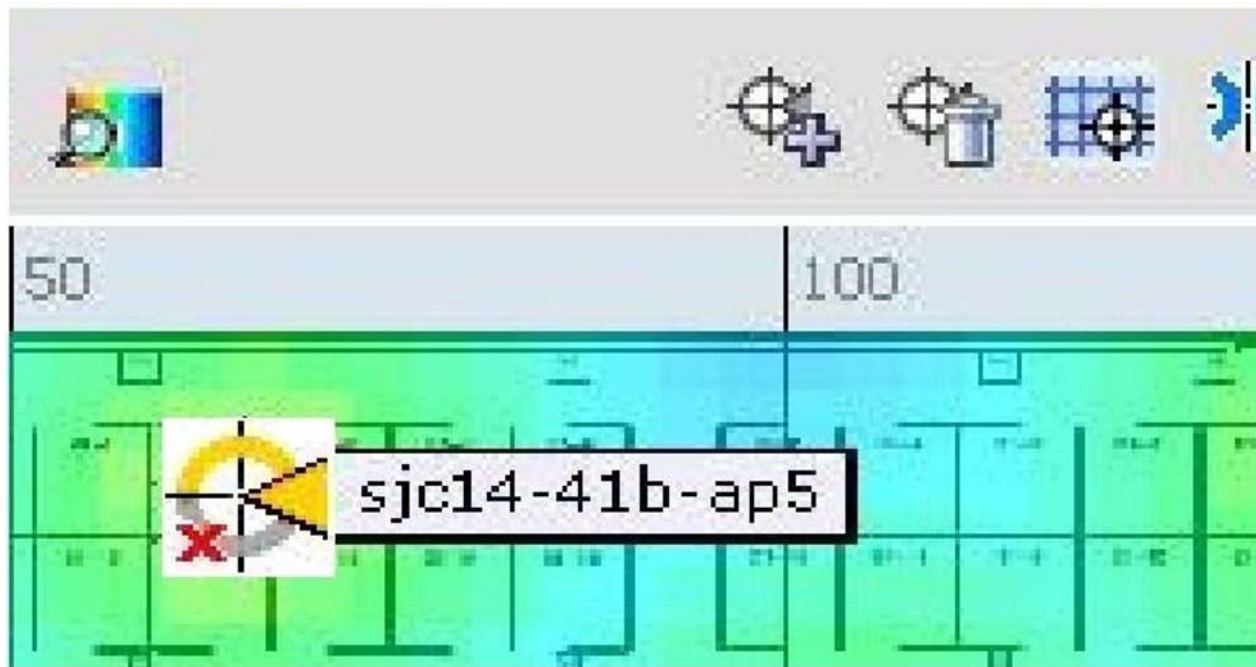
**Explanation**

**Explanation/Reference:**

Explanation:

**QUESTION 189**

Refer to the exhibit.



Which two options does this icon represent about the status of the respective AP on a Cisco WCS version 7.0 map? (Choose two.)

- A. The 802.11a/n radio is administratively disabled.
- B. The 802.11a/n radio has a minor fault.
- C. The 802.11a/n radio has a major fault.
- D. The 802.11b/g/n radio is administratively disabled.
- E. The 802.11b/g/n radio has a minor fault.

F. The 802.11b/g/n radio has a major fault.

**Correct Answer:** BD

**Section:** (none)

**Explanation**

**Explanation/Reference:**

Explanation:

<http://www.cisco.com/en/US/docs/wireless/wcs/7.0MR1/configuration/guide/maps.html>

The icon with the top half yellow indicates that the optional 802.11a Cisco Radio (top) has a minor fault.

The bottom half of the circle represents the state of the 802.11b/g Cisco Radio.

The icon with a red "x" on the half shows that the indicated Cisco Radio has been administratively disabled.

The rest of the color coding is as described above.

#### **QUESTION 190**

In general, what is the difference in transmit power between an AP operating at Tx Power Level 1 and the same AP operating at Tx Power Level 3?

- A. 2 dB
- B. 3 dB
- C. 6 dB
- D. 11 dB
- E. 17 dB

**Correct Answer:** C

**Section:** (none)

**Explanation**

**Explanation/Reference:**

Explanation:

#### **QUESTION 191**

Which two statements are true about WiMAX technology? (Choose two.)

- A. WiMAX is defined by 802.11i.
- B. Typically, fixed WiMAX networks have a higher gain direction antenna installed near the client.
- C. WiMAX is capable of working as a long-range system over several miles.
- D. WiMAX works only for licensed frequencies.



**Correct Answer:** BC

**Section:** (none)

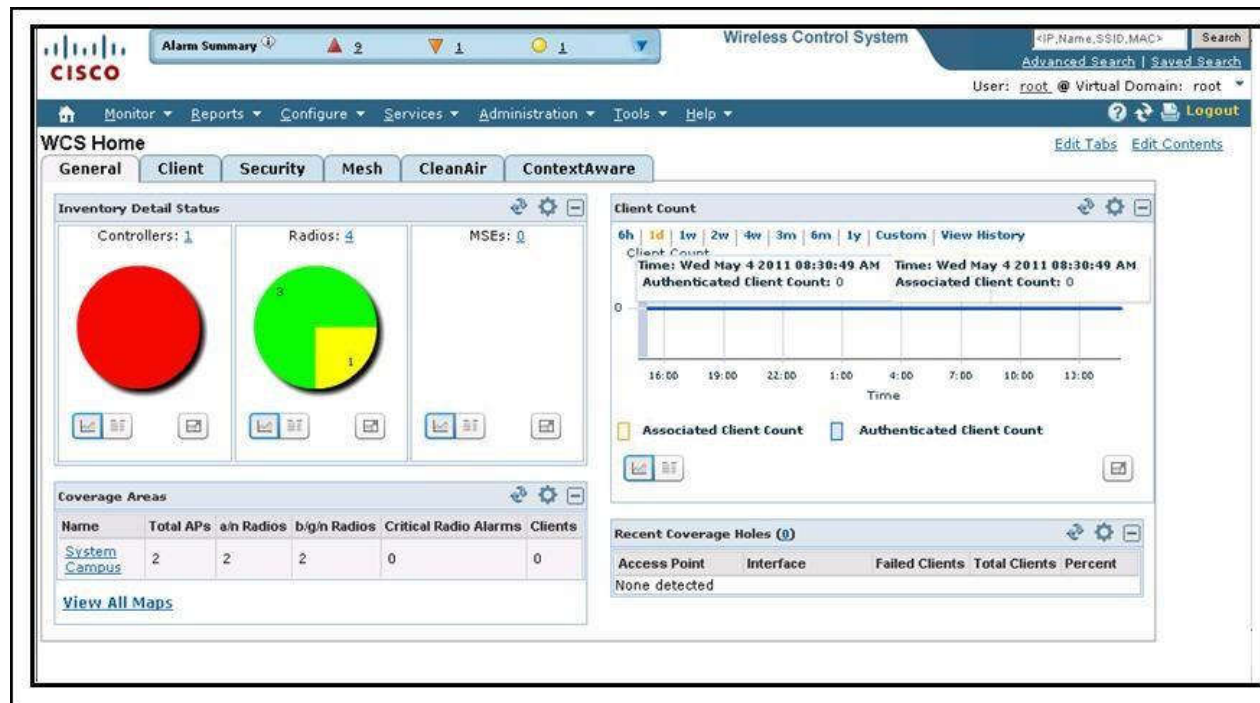
**Explanation**

**Explanation/Reference:**

Explanation

### QUESTION 192

Refer to the exhibit.



Which menu gives you access to manage background tasks in Cisco WCS?

- A. None, because the General tab provides access to the management of background tasks
- B. Monitor
- C. Configure

- D. Services
- E. Administration
- F. Tools

**Correct Answer:** E

**Section:** (none)

**Explanation**

**Explanation/Reference:**

Explanation:

The Administration menu enables you to schedule tasks like making a backup, checking a device status, auditing your network, synchronizing the MSE, and so on. It also contains Logging to enable various logging modules and specify restart requirements. For user administration such as changing passwords, establishing groups, setting application security settings, and so on, choose AAA. From the Administration Menu, you can also access the licensing information, set user preferences, and establish high availability (a secondary backup device running WCS).

[http://www.cisco.com/c/en/us/td/docs/wireless/wcs/7-0/configuration/guide/WCS70cg/7\\_0wst.html#wp1060607](http://www.cisco.com/c/en/us/td/docs/wireless/wcs/7-0/configuration/guide/WCS70cg/7_0wst.html#wp1060607)

#### **QUESTION 193**

What is the difference between the IEEE, the WiFi Alliance, and the FCC, ETSI, and TELEC?

- A. The IEEE and FCC are responsible for the standards that apply to wireless networks. The WiFi Alliance, ETSI, and TELEC are the governmental agencies that regulate compliance with local standards.
- B. The IEEE is responsible for Layer 1 and Layer 2 protocols. The WiFi Alliance is responsible for interoperability testing. The FCC, ETSI, and TELEC are responsible for radio frequency and transmission power-level regulations and standards in the U.S., Europe, and Japan.
- C. The IEEE is responsible for Layer 1 and Layer 2 protocols. The FCC, ETSI, and TELEC are responsible for interoperability testing and compliance. The WiFi Alliance is responsible for radio frequency and transmission power-level regulations and standards on a global basis.
- D. The IEEE and FCC are responsible for the Layer 3 protocol support and frequency and power-level regulations in the United States. ETSI and TELEC are responsible for frequency and power-level regulations in Europe and Japan. The WiFi Alliance is responsible to interoperability testing.

**Correct Answer:** B

**Section:** (none)

**Explanation**

**Explanation/Reference:**

Explanation:

The FCC is the local regulatory authority responsible for frequency regulation in the United States. ETSI is a European standards organization responsible for producing standards for information and communications technologies. The Wi-Fi Alliance is an interoperability testing organization. The IEEE creates standards, and WPA is a pre-802.11 certification by the Wi-Fi Alliance.

#### **QUESTION 194**

You are testing a new autonomous Cisco Aironet 1260 AP that has booted for the first time on the existing corporate network, which includes voice, data, and location services. How do you reach the GUI of the AP?

- A. HTTP to 10.0.0.1.
- B. HTTP to 192.168.1.1.
- C. HTTP to the DHCP address.
- D. HTTPS to 10.0.0.1.
- E. HTTPS to the 192.168.1.1.
- F. HTTPS to the DHCP address.

**Correct Answer:** C

**Section:** (none)

**Explanation**

**Explanation/Reference:**

Explanation:

Make sure DHCP is enabled on the network or DNS resolution is available. The access point must receive its IP address through DHCP or DNS resolution, and the GUI can be accessed by using HTTP to this address.

[http://www.cisco.com/c/en/us/td/docs/wireless/access\\_point/1260/quick/guide/ap1260getstart.html](http://www.cisco.com/c/en/us/td/docs/wireless/access_point/1260/quick/guide/ap1260getstart.html)

#### **QUESTION 195**

A WLAN deployment uses a combination of Cisco Aironet 1260 APs and multiple Cisco 5500 Wireless LAN Controllers to provide wireless LAN access to end-users. The network administrator has decided to use DHCP Option 43 to enable the APs to discover the wireless LAN controllers. When configuring the DHCP scope, which format should be used for the Cisco WLC addresses?

- A. a comma-separated ASCII string of Cisco WLC AP-manager addresses
- B. a comma-separated ASCII string of Cisco WLC management addresses
- C. a comma-separated ASCII string of Cisco WLC virtual IP addresses
- D. a hexadecimal string of Cisco WLC AP-manager addresses
- E. a hexadecimal string of Cisco WLC management addresses
- F. a hexadecimal string of Cisco WLC virtual IP addresses

**Correct Answer:** E

**Section:** (none)

**Explanation**

**Explanation/Reference:**

Explanation:

Complete these steps in order to configure DHCP Option 43, in the embedded Cisco IOS DHCP server, for all Cisco Aironet APs that run Cisco IOS. This includes all APs except for the VxWorks 1000 Series (see the next section) and the 600 Series OEAP which does not use Option 43. ip dhcp pool <pool name>

network <ip network> <netmask>

default-router <default-router IP address>

dns-server <dns server IP address>

option 43 hex <hexadecimal string>

The hexadecimal string in step 3 is assembled as a sequence of the TLV values for the Option 43 suboption: Type + Length + Value. Type is always the suboption code 0xf1. Length is the number of controller management IP addresses times 4 in hex. Value is the IP address of the controller listed sequentially in hex.

<http://www.cisco.com/c/en/us/support/docs/wireless-mobility/wireless-lan-wlan/97066-dhcp-option-43-00.html>

### QUESTION 196

Which interface is considered a dynamic interface?

- A. the virtual interface
- B. the AP manager interface
- C. the LAG interface
- D. the management interface
- E. the service port interface
- F. a WLAN client data interface

**Correct Answer:** F

**Section:** (none)

**Explanation**

**Explanation/Reference:**

Explanation:

Dynamic interfaces, also known as VLAN interfaces, are created by users and designed to be analogous to VLANs for wireless LAN clients. A controller can support up to 512 dynamic interfaces (VLANs). Each dynamic interface is individually configured and allows separate communication streams to exist on any or all of a controller's distribution system ports. Each dynamic interface controls VLANs and other communications between controllers and all other network devices, and each acts as a DHCP relay for wireless clients associated to WLANs mapped to the interface.

### QUESTION 197

Which three items do you need to establish a wireless connection to an enterprise wireless network? (Choose three.)

- A. SSID name
- B. RF channel
- C. RF signal

- D. 802.1X/EAP credentials
- E. pre-shared key
- F. web page
- G. WPA/WPA2 settings

**Correct Answer:** ACD

**Section:** (none)

**Explanation**

**Explanation/Reference:**

Explanation:

Most clients enable you to associate to a detected network (broadcasted SSID) or configure a specific profile. In all cases, you must configure the network name (SSID), the operating mode (ad-hoc or infrastructure), and some security settings (that will be different depending on whether the SSID uses Pre-Shared Key Security or Enterprise [EAP/802.1x] security).

#### **QUESTION 198**

You have brought your MacBook Pro running OS 10.6 to work and intend use the enterprise wireless network. This network is using EAP-FAST and 2.4 GHz for data and 5 GHz for VoWLAN. Which statement about the laptop configuration and wireless connection is true?

- A. Install a USB wireless adapter and configure
- B. Install AppleEAP-Fast plug-in and configure
- C. Install Cisco AnyConnect v2.4 and configure
- D. Configure Apple network preferences for EAP-FAST
- E. The laptop does not support EAP-FAST and will be unable to connect
- F. The laptop only supports 5 GHz and will be unable to connect

**Correct Answer:** D

**Section:** (none)

**Explanation**

**Explanation/Reference:**

Explanation:

MacBook Pro using 10.6 supports 2.4Ghz only, so the EAP-FAST should be used. 5Ghz support was added to MacBook later.

#### **QUESTION 199**

Which Cisco AnyConnect module allows troubleshooting for core Cisco AnyConnect problems?

- A. telemetry

- B. web security
- C. VPN
- D. NAM
- E. DART
- F. posture
- G. CSSC

**Correct Answer:** E

**Section:** (none)

**Explanation**

**Explanation/Reference:**

Explanation:

AnyConnect offers the DART module that can be used to analyze and troubleshoot connections. The information collected by DART can be examined locally or exported and sent to a network support desk for analysis.

#### **QUESTION 200**

Which Cisco AnyConnect module provides wireless connectivity?

- A. telemetry
- B. web security
- C. VPN
- D. NAM
- E. DART
- F. posture
- G. CSSC

**Correct Answer:** D

**Section:** (none)

**Explanation**

**Explanation/Reference:**

Explanation:

The Cisco AnyConnect Secure Mobility Client is a multifunctional and modular security client. It was built to enable you to use the same interface across various hardware and software platforms (operating systems) to manage and secure your connections to the network. It contains several modules:

The main components used in IUWNE are the Cisco AnyConnect Mobility Client itself, associated with the Network Access Module (NAM) used to manage existing profiles and provide the wireless connectivity.

**QUESTION 201**

Which option is needed to earn the Cisco Compatible credential for Cisco Compatible Extensions Lite?

- A. Foundation and Management are required.
- B. Location and Management are required.
- C. Foundation and Location are required.
- D. Foundation and Voice are required.
- E. Voice is required.
- F. Foundation is required.
- G. Location is required.
- H. Management is required.

**Correct Answer:** F

**Section:** (none)

**Explanation**

**Explanation/Reference:**

Explanation:

Historically, there have been five versions of the Cisco Compatible Extension (CCX) specification labeled Version 1(V1) to Version 5(V5). Each version built upon its predecessors. For example, CCXv5 added MFP, real-time reporting between client and AP, a diagnostic channel to help troubleshooting clients and optional location services, and improved several CCXv4 features. Each version contains a list of features. In summer 2011, Cisco separated the CCX features into four subfamilies to help vendors integrate only those features that are needed for their specific wireless clients (called application-specific devices, which are devices built for a specific function [for example, barcode scanners or VoWLAN phones] and therefore do not need all the CCX features that a data laptop would need).

**QUESTION 202**

In a typical wireless network using WPA, WPA2 or VPN, why is it still possible for a rogue client to launch a DOS attack?

- A. WPA and WPA2 are not considered strong encryption algorithms and are easily cracked.
- B. 802.11 management frames are easily compromised.
- C. Cisco Compatible Extensions v5 are required with WPA, WPA2, or VPN to keep rogues from launching attacks in the wireless network.
- D. The message integrity check frames are never encrypted or authenticated, which allows rogues to spoof clients.

**Correct Answer:** B

**Section:** (none)

**Explanation**

**Explanation/Reference:**

Explanation:

A different receiver is needed for each 802.11a, b, g, and n radios, so using all simultaneously would severely impact the overall battery life of a mobile device.

**QUESTION 203**

Strong security is required, but a centralized RADIUS authenticator has not been implemented. Which two steps must you take to provide maximum security when using a pre-shared key? (Choose two.)

- A. Change the TKIP on a weekly basis.
- B. Use a key that includes mixed-case letters, numbers, and symbols with a length greater than 10 characters.
- C. Use only with WPA and WPA2, following proper strong key guidelines.
- D. Use the longest possible WEP key in your security policy.

**Correct Answer:** BC

**Section:** (none)

**Explanation**

**Explanation/Reference:**

Explanation:

Another form of basic security now available is WPA or WPA2 Pre-Shared Key (PSK). The PSK verifies users via a password, or identifying code, (also called a passphrase) on both the client station and the access point. A client may only gain access to the network if the client's password matches the access point's password. The PSK also provides keying material that TKIP or AES use to generate an encryption key for each packet of transmitted data. While more secure than static WEP, PSK is similar to static WEP in that the PSK is stored on the client station and can be compromised if the client station is lost or stolen. A strong PSK passphrase that uses a mixture of letters, numbers, and non-alphanumeric characters is recommended.

[http://www.cisco.com/c/en/us/products/collateral/wireless/aironet-1200-access-point/prod\\_brochure09186a00801f7d0b.html](http://www.cisco.com/c/en/us/products/collateral/wireless/aironet-1200-access-point/prod_brochure09186a00801f7d0b.html)

**QUESTION 204**

What is the impact of configuring a single SSID to support TKIP and AES encryption simultaneously?

- A. The overhead associated with supporting both encryption methods degrades client throughput significantly.
- B. Some wireless client drivers might not handle complex SSID settings and may be unable to associate to the WLAN.
- C. This configuration is unsupported and the Cisco Wireless Control System generates alarms continuously until the configuration is corrected.
- D. This configuration is common for migrating from WPA to WPA2. No problem is associated with using this configuration.

**Correct Answer:** B

**Section:** (none)

**Explanation**

**Explanation/Reference:**

Explanation:

AES encryption uses hardware so there is almost no overhead when using it. TKIP is based on software. So when we support both TKIP and AES the client throughput will not significantly degrade -> A is not correct.

When choosing both AES and TKIP, the router will support both encryption algorithms. Because not all wireless NICs support AES, some only support TKIP, so this



option is probably the best choice -> B is not correct.

As the picture below, Cisco Wireless Control System does support both simultaneously -> C is not correct.

#### **QUESTION 205**

Which key is established using the four-way handshake during the WPA authentication process?

- A. Pairwise Master Key
- B. Pairwise Multiple Key
- C. Pairwise Session Key
- D. Pairwise Transient Key
- E. Pairwise Transverse Key

**Correct Answer:** D

**Section:** (none)

**Explanation**

#### **Explanation/Reference:**

Explanation:

The authentication process leaves two considerations: the access point (AP) still needs to authenticate itself to the client station (STA), and keys to encrypt the traffic need to be derived. The earlier EAP exchange or WPA2-PSK configuration has provided the shared secret key PMK (Pairwise Master Key). To derive the PMK from the WPA-PSK, the PSK is put through PBKDF2-SHA1 as the cryptographic hash function. This key is, however, designed to last the entire session and should be exposed as little as possible. Therefore the four-way handshake is used to establish another key called the PTK (Pairwise Transient Key). The PTK is generated by concatenating the following attributes: PMK, AP nonce (ANonce), STA nonce (SNonce), AP MAC address, and STA MAC address. The product is then put through a pseudo random function.

[http://en.wikipedia.org/wiki/IEEE\\_802.11i-2004](http://en.wikipedia.org/wiki/IEEE_802.11i-2004)

#### **QUESTION 206**

What are four features of WPA? (Choose four.)

- A. a larger initialization vector, increased to 48 bits
- B. a message integrity check protocol to prevent forgeries
- C. authenticated key management using 802.1X
- D. support for a key caching mechanism
- E. unicast and broadcast key management
- F. requires AES-CCMP

**Correct Answer:** ABCE

**Section:** (none)

**Explanation**

**Explanation/Reference:**

Explanation:

TKIP and the related WPA standard implement three new security features to address security problems encountered in WEP protected networks. First, TKIP implements a key mixing function that combines the secret root key with the initialization vector before passing it to the RC4 initialization. WEP, in comparison, merely concatenated the initialization vector to the root key, and passed this value to the RC4 routine. This permitted the vast majority of the RC4 based WEP related key attacks. Second, WPA implements a sequence counter to protect against replay attacks. Packets received out of order will be rejected by the access point. Finally, TKIP implements a 64-bit Message Integrity Check (MIC).

To be able to run on legacy WEP hardware with minor upgrades, TKIP uses RC4 as its cipher. TKIP also provides a rekeying mechanism. TKIP ensures that every data packet is sent with a unique encryption key. Key mixing increases the complexity of decoding the keys by giving an attacker substantially less data that has been encrypted using any one key. WPA2 also implements a new message integrity code, MIC. The message integrity check prevents forged packets from being accepted. Under WEP it was possible to alter a packet whose content was known even if it had not been decrypted.

[http://en.wikipedia.org/wiki/Temporal\\_Key\\_Integrity\\_Protocol](http://en.wikipedia.org/wiki/Temporal_Key_Integrity_Protocol)

<http://documentation.netgear.com/reference/fra/wireless/WirelessNetworkingBasics-3-14.html>

**QUESTION 207**

When the enterprise-based authentication method is used for WPA2, a bidirectional handshake exchange occurs between the client and the authenticator. Which five options are results of that exchange being used on a controller-based network? (Choose five.)

- A. a bidirectional exchange of a nonce used for key generation
- B. binding of a Pairwise Master Key at the client and the controller
- C. creation of the Pairwise Transient Key
- D. distribution of the Group Transient Key
- E. distribution of the Pairwise Master key for caching at the access point
- F. proof that each side is alive

**Correct Answer:** ABCDF

**Section:** (none)

**Explanation**

**Explanation/Reference:**

Explanation:

Regardless of whether WPA or WPA2 is used during the initial connection between the station and the AP, the two agree on common security requirements.

**QUESTION 208**

When a guest client is authenticated, which type of connection is created between the controller- based AP and the client?

- A. as SSL connection
- B. a TLS encrypted tunnel
- C. an unsecured connection

- D. a 802.1x/EAP tunnel
- E. an IPsec tunnel

**Correct Answer: C**

**Section: (none)**

**Explanation**

**Explanation/Reference:**


Explanation:

The wireless network at UNCG allows visitors to establish an unsecured connection. The unsecured network is available as a self-service wireless profile.

[http://its.uncg.edu/Network\\_Services/Wireless/Connect/Guest/](http://its.uncg.edu/Network_Services/Wireless/Connect/Guest/)

### QUESTION 209

Refer to the exhibit.



## Wireless Control System

Username: root | Logout | Refresh | Print View

Monitor ▾ Reports ▾ Configure ▾ Location ▾ Administration ▾ Help ▾

AAA

Change Password

AAA Mode

Users

Groups

Rogues	0		19
Coverage			0
Security	0	0	0
Controllers	0	0	0
Access Points	0	0	6
Mesh Links	0	0	0
Location	0	0	0

### AAA Mode Settings

AAA Mode ☒ Local ☐ RADIUS ☐ TACACS+

Fallback on Local ☐

OK

Install time super user is going to be always authenticated locally irrespective of the AAA Mode Settings.

Which GUI item do you click to configure authentication and authorization in Cisco WCS?

- A. Security
- B. Monitor
- C. Configure
- D. Services
- E. Administration
- F. Tools

**Correct Answer:** E

**Section:** (none)

**Explanation**

**Explanation/Reference:**

Explanation:

The Administration menu enables you to schedule tasks like making a backup, checking a device status, auditing your network, synchronizing the location server, and so on. You can also choose Logging to enable various logging modules and specify restart requirements. You can also choose AAA for user administration such as changing passwords, establishing groups, setting application security settings, and so on.

[http://www.cisco.com/c/en/us/td/docs/wireless/wcs/5-2/configuration/guide/WCS5\\_2cg/5\\_2wst.html#wp1060607](http://www.cisco.com/c/en/us/td/docs/wireless/wcs/5-2/configuration/guide/WCS5_2cg/5_2wst.html#wp1060607)

#### **QUESTION 210**

When adding a controller to manage through Cisco WCS, which address type is used and which SNMP function does the Cisco WCS perform?

- A. The controller is managed through its MAC address and the Cisco WCS acts as a SNMP TRAP authenticator.
- B. The IP address of the controller is used and the Cisco WCS acts as a SNMP TRAP receiver.
- C. The controller is managed through its MAC address and the Cisco WCS acts as a SNMP agent.
- D. The controller connects through its MAC address to the Cisco WCS and the Cisco WCS uses the SNMP to manage the controller for all configured SNMP parameters.

**Correct Answer:** B

**Section:** (none)

**Explanation**

**Explanation/Reference:**

Explanation:

#### **QUESTION 211**

Which three severity levels are in the Cisco WCS alarm dashboard? (Choose three.)

- A. Critical
- B. Flash
- C. Major
- D. Minor
- E. Trivial
- F. Urgent

**Correct Answer:** ACD

**Section:** (none)

**Explanation**

**Explanation/Reference:**

Explanation:

Alarms are color coded as follows:

Red --Critical Alarm

Orange --Major Alarm

Yellow --Minor Alarm

The Alarm Summary displays the number of current critical, major, and minor alarms.

[http://www.cisco.com/c/en/us/td/docs/wireless/wcs/60/configuration/guide/WCS60cg/6\\_0event.html](http://www.cisco.com/c/en/us/td/docs/wireless/wcs/60/configuration/guide/WCS60cg/6_0event.html)

#### **QUESTION 212**

The existing Cisco Unified Wireless Controller is running version 7.0 code for both the controllers and the Cisco WCS. A controller has been configured with an appropriate rogue rule condition to report discovered APs to the Cisco WCS.

Which default alarm level is used to display all rogue APs in the Alarm Summary?

- A. Critical
- B. Flash
- C. Urgent
- D. Major
- E. Minor

**Correct Answer:** E

**Section:** (none)

**Explanation**

**Explanation/Reference:**

Explanation:

Yellow-Minor alarm is used to display all rogue Aps in alarm summary.

**QUESTION 213**

Which Cisco WCS tool allows you to view current reports, open specific types of reports, create and save new reports, and manage scheduled runs?

- A. Reports menu
- B. Reports launch page
- C. Scheduled Run results
- D. saved reports

**Correct Answer:** B

**Section:** (none)

**Explanation**

**Explanation/Reference:**

Explanation:

The report launch pad provides access to all NCS reports from a single page. From this page, you can view current reports, open specific types of reports, create and save new reports, and manage scheduled runs.

<http://www.cisco.com/c/en/us/td/docs/wireless/ncs/10/configuration/guide/NCS10cg/reps.html#wp1089982>

**QUESTION 214**

Which path do you take to manage the results of a report that had been run on network utilization?

- A. Reports > Report Launch Pad > Device > Utilization
- B. Reports > Report Launch Pad > Scheduled Run Results
- C. Reports > Saved Reports > Scheduled Run Results
- D. Reports > Scheduled Run Results

**Correct Answer:** D

**Section:** (none)

**Explanation**

**Explanation/Reference:**

Explanation:

There are five menus on each window: Monitor, Reports, Configure, Location, Administration , and Help. When you move the mouse over any of the menus, a drop-down menu appears.

**QUESTION 215**

Which command path correctly describes how to access and troubleshoot clients with Cisco WCS version 7.0?

- A. Tools > Clients > select displayed client's MAC address
- B. Tools > Clients > enter client's MAC address
- C. Monitor > Clients > click displayed client's MAC address
- D. Monitor > Clients > enter client's MAC address

**Correct Answer:** C

**Section:** (none)

**Explanation**

**Explanation/Reference:**

Explanation:

[http://www.cisco.com/c/en/us/td/docs/wireless/prime\\_infrastructure/1-2/configuration/guide/pi\\_12\\_cg/clientmgmt.html](http://www.cisco.com/c/en/us/td/docs/wireless/prime_infrastructure/1-2/configuration/guide/pi_12_cg/clientmgmt.html)

#### **QUESTION 216**

Which single tool helps to troubleshoot client-related issues in a WLAN?

- A. The show and debug commands on the controller.
- B. The show commands on the AP.
- C. Client templates on the Cisco WCS.
- D. Client troubleshooting on the Cisco WCS.

**Correct Answer:** D

**Section:** (none)

**Explanation**

**Explanation/Reference:**

Explanation:

<http://www.cisco.com/c/en/us/support/docs/wireless/4400-series-wireless-lan-controllers/107585-client-con.html>

#### **QUESTION 217**

Which option best describes the limitation of a client that is attempting to manage a WLC while using the client wireless adapter connection to the wireless infrastructure?

- A. Controllers must be managed using only secure protocols (that is, SSH and HTTPS), not nonsecure protocols (that is, HTTP and Telnet).
- B. Read-write access is not available; only read-only access is supported.
- C. Uploads and downloads from the controller are not allowed.
- D. Wireless clients can manage other controllers, but not the same controller and the AP to which the client is associated.

**Correct Answer:** C

**Section: (none)**

**Explanation**

**Explanation/Reference:**

Explanation:

The Cisco WLAN Solution Management over Wireless feature allows Cisco WLAN Solution operators to monitor and configure local WLCs using a wireless client. This feature is supported for all management tasks, except uploads to and downloads from (transfers to and from) the WLC.

<http://www.cisco.com/c/en/us/support/docs/wireless/4400-series-wireless-lan-controllers/69561-wlc-faq.html>

**QUESTION 218**

Refer to the exhibit.

The screenshot displays the 'Syslog Configuration' page in the Cisco WLAN Solution Management over Wireless interface. On the left, a 'Management' sidebar lists various configuration categories, with 'Logs' expanded to show 'Config' and 'Message logs'. The main configuration area is divided into three sections: 'Syslog Configuration' at the top, 'Syslog Server' in the middle, and 'Msg Log Configuration' at the bottom. In the 'Syslog Configuration' section, there is a text input field for 'Syslog Server IP Address' and an 'Add' button. The 'Syslog Server' section contains two dropdown menus: 'Syslog Level' is set to 'Errors', and 'Syslog Facility' is set to 'Local Use 0'. The 'Msg Log Configuration' section includes three settings: 'Buffered Log Level' is set to 'Errors', 'Console Log Level' is set to 'Disable', and both 'File Info' and 'Trace Info' are checked with checkboxes.

With the current Cisco WLC version 7.0 syslog level settings set the way they are, which log levels are captured by the Syslog server?

- A. syslog level errors only
- B. all syslog levels
- C. only the syslog severity level number of error and greater



D. only the syslog severity level number of error and less

**Correct Answer:** D

**Section:** (none)

**Explanation**

**Explanation/Reference:**

Explanation:

Here the syslog level is set to errors, so it will send all logs with a severity level of errors, as well as all other messages with a greater severity level.

#### **QUESTION 219**

Which two statements about beacon frames used by access points are true? (Choose two.)

- A. They contain SSIDs if this feature is enabled.
- B. They provide vendor proprietary information.
- C. They are another name for an associated request.
- D. They are sent in response to a probe frame.
- E. They include ATIM window information for power save operations.

**Correct Answer:** AB

**Section:** (none)

**Explanation**

**Explanation/Reference:**

Explanation:

Probably the most common 802.11 management frame is the beacon frame.

Beacon frame from a Cisco WLAN

Here we can easily make out some of the capabilities of the WLAN, for example the SSID is probably going to be the first thing you notice Test SSID in this case, this is what provides the name of the WLAN. As you know SSID broadcasting can be disabled (Also called Closed System) at which point the SSID field will be blank.

Now, at the end of the beacon frame you will notice all this Unknown information, as you have probably guessed (or read) this information is vendor specific, which is common for every vendor to have put their own proprietary information within the Beacon frames.

<http://ccie-or-null.net/2011/06/22/802-11-beacon-frames/>

#### **QUESTION 220**

Which two actions are best for deploying VoWLAN on a wireless network? (Choose two.)

- A. Minimize the use of Class 3 Bluetooth devices.

- B. Minimize the use of analog cameras.
- C. Minimize the use of IP cameras.
- D. Maximize client access by enabling all data rates used by clients.
- E. Maximize client access by enabling only a few high data rates used by clients.

**Correct Answer:** BE

**Section:** (none)

**Explanation**

**Explanation/Reference:**

Explanation:

Analog cameras can operate in the same frequency of the wireless network, causing interference. The goal in setting the data rates for the VoWLAN network is to match the data rates of VoWLAN handsets as closely as possible, enabling a few high data rates used by the clients.

[http://www.cisco.com/c/en/us/td/docs/solutions/Enterprise/Mobility/emob41dg/emob41dg-wrapper/ch9\\_Voic.html](http://www.cisco.com/c/en/us/td/docs/solutions/Enterprise/Mobility/emob41dg/emob41dg-wrapper/ch9_Voic.html)

#### **QUESTION 221**

What is the equivalent of 26 dBm in milliwatts?

- A. 4 mW
- B. 40 mW
- C. 100 mW
- D. 400 mW
- E. 1000 mW

**Correct Answer:** D

**Section:** (none)

**Explanation**

**Explanation/Reference:**

Explanation:

$\text{dBm} = \log_{10}(\text{mW}) \times 10$

$\text{mW} = 10^{(\text{dBm}/10)}$

Samples:

40 dBm=10.00 watts

36 dBm=4.00 watts

30 dBm=1.00 watts

27 dBm=500 milliwatts

26 dBm=400 milliwatts

<http://www.h-peters.com/dbmtomw.html>

**QUESTION 222**

What is the EIRP value for a transmitter that has a transmitter capable of 15 dBm, an antenna that has a gain of 12 dBi, and a cable that connects the transmitter to the antenna that has 1 db loss?

- A. 26 dBm
- B. 100 mW
- C. .86 dBm
- D. 165 dBm
- E. 1000 mW

**Correct Answer:** A

**Section:** (none)

**Explanation**

**Explanation/Reference:**

Explanation:

To determine EIRP follow this equation:

<Transmit Power> -Cable Loss + Antenna Gain = EIRP So in this case  $15 - 1 + 12 = 26$

**QUESTION 223**

What are three primary components that describe TKIP? (Choose three.)

- A. broadcast key rotation
- B. dynamic WEP
- C. message integrity check
- D. per-packet key hashing
- E. symmetric key cipher
- F. WPA2 enterprise mode

**Correct Answer:** ACD

**Section:** (none)

**Explanation**

**Explanation/Reference:**

Explanation:

TKIP uses the same underlying mechanism as WEP, and consequently is vulnerable to a number of similar attacks. The message integrity check, per- packet key hashing, broadcast key rotation, and a sequence counter discourage many attacks. The key mixing function also eliminates the WEP key recovery attacks.

[http://en.wikipedia.org/wiki/Temporal\\_Key\\_Integrity\\_Protocol](http://en.wikipedia.org/wiki/Temporal_Key_Integrity_Protocol)

**QUESTION 224**

When an AP, in its default configuration mode, connects to a Cisco WLC, which methods are available for remote management access to an AP?

- A. SSL and SSH are available only after configuration by a Cisco WLC version 7.0.
- B. SSH only
- C. HTTPS, and SSH
- D. SSH and Telnet
- E. SSH and Telnet are available only after configuration by a Cisco WLC version 7.0.

**Correct Answer:** D

**Section:** (none)

**Explanation**

**Explanation/Reference:**

Explanation:

In Wireless LAN Controller release 5.0 and later, the controller supports the use of Telnet or Secure Shell (SSH) protocols to troubleshoot lightweight access points. You can use these protocols in order to make debugging easier, especially when the access point is unable to connect to the controller. You can configure Telnet and SSH support only through the controller CLI.

<http://www.cisco.com/c/en/us/support/docs/wireless/aironet-1200-series/70278-lap-faq.html>

**QUESTION 225**

Which three options are limitations when configuring basic security on an autonomous AP when using the express security page setup? (Choose three.)

- A. You need multiple SSIDs.
- B. Delete all the SSIDs.
- C. Edit the SSIDs.
- D. Use multiple authentication servers.
- E. Use the same SSID on both radios.
- F. Use a single SSID on a single radio.

**Correct Answer:** CDE

**Section:** (none)

**Explanation**

**Explanation/Reference:**

Explanation:

The security settings in the Easy Setup Radio Configuration section are designed for simple configuration of basic security. The options available are a subset of the wireless device security capabilities. Keep these limitations in mind when using the Express Security page: [http://www.cisco.com/c/en/us/td/docs/wireless/access\\_point/15\\_2\\_4\\_JB/configuration/guide/scg15-2-4-Book/scg15-2-4-chap4-first.html](http://www.cisco.com/c/en/us/td/docs/wireless/access_point/15_2_4_JB/configuration/guide/scg15-2-4-Book/scg15-2-4-chap4-first.html)

**QUESTION 226**

Which two items are used to help convert a lightweight AP into an autonomous AP? (Choose two.)

- A. HTTP express setup on the AP
- B. Cisco WCS template
- C. Cisco WLC CLI
- D. Windows Cisco Conversion Tool
- E. image with naming convention of platform\_name-k9w7-tar.default
- F. image with naming convention of platform\_name-rcvk9w8-tar

**Correct Answer:** CE

**Section:** (none)

**Explanation**

**Explanation/Reference:**

Explanation:

See video tutorial in this process at the reference link below: <https://supportforums.cisco.com/video/11928901/lwapp-lightweight-mode-autonomous-conversion-and-vice-versa>

**QUESTION 227**

Which three AP modes of operation allow for the WIPS sub mode? (Choose three.)

- A. local mode
- B. bridge mode
- C. monitor mode
- D. H-REAP mode
- E. rogue detector mode
- F. SE-Connect mode
- G. sniffer mode

**Correct Answer:** ACD

**Section:** (none)

**Explanation**

**Explanation/Reference:**

Explanation:

Only Cisco Aironet 1130, 1140, 1240, 1250, 3502E and 3502I Series Access Points support WIPS monitor mode.

The wIPS sub mode is supported only when access point mode is Monitor, Local or HREAP. But for 1130 and 1240 access points, wIPS is supported only in Monitor Mode.

[http://www.cisco.com/c/en/us/td/docs/wireless/mse/3350/7-0MR1/wIPS/configuration/guide/wIPS\\_70MR1/msecg7x\\_ch6\\_wIPS.html](http://www.cisco.com/c/en/us/td/docs/wireless/mse/3350/7-0MR1/wIPS/configuration/guide/wIPS_70MR1/msecg7x_ch6_wIPS.html)

#### **QUESTION 228**

A lightweight AP has been deployed in local mode in a network that consists of 10 wireless LAN controllers in a single mobility group. The AP has been configured to use primary, secondary, and tertiary Cisco WLCs. Due to a major power failure, all those Cisco WLCs are unavailable.

Which step does the AP take next?

- A. The AP reboots and repeatedly attempts to join the configured primary, secondary, and tertiary Cisco WLCs in that order. The process continues until one of the configured Cisco WLCs is available.
- B. The AP attempts to join a Cisco WLC configured as a master controller.
- C. The AP attempts to join the Cisco WLC that has the greatest capacity available.
- D. The AP state transitions to AP Fallback Mode and continues to provide limited WLAN services (that is, no new client authentications) until a Cisco WLC is available.

**Correct Answer:** B

**Section:** (none)

**Explanation**

**Explanation/Reference:**

Explanation:

If a WLC is configured as a Master Controller, the LAP selects that WLC and sends it an LWAPP join request.

<http://www.cisco.com/c/en/us/support/docs/wireless-mobility/wireless-lan-wlan/70333-lap-registration.html>

#### **QUESTION 229**

An AP using version 7.0 MR1 broadcasts a Layer 3 CAPWAP discovery message on the local IP subnet. Which step does the AP take next?

- A. Determine if the controller responses include the primary controller.
- B. Determine if the controller responses include the master controller.
- C. Send a discovery request using DHCP option 43.
- D. Send a discovery request using DNS.
- E. Send a discovery request using locally stored information on the AP.
- F. Send a discovery request using OTAP.

**Correct Answer:** E

**Section: (none)**

**Explanation**

**Explanation/Reference:**

Explanation:

If the LAP was registered to a WLC in a previous deployment, the LAP maintains the list of WLC IP addresses locally in NVRAM. The stored WLC IP addresses include all of the WLCs that are in previously joined WLC "mobility groups". This is the discovery process: <http://www.cisco.com/c/en/us/support/docs/wireless-mobility/wireless-lan-wlan/70333-lap-registration.html#topic2>

**QUESTION 230**

Which three Cisco Unified Wireless Network capabilities use information that is provided by Radio Resource Management neighbor messages? (Choose three.)

- A. aggressive load balancing
- B. dynamic channel assignment
- C. hybrid remote edge access point
- D. intercontroller mobility (that is, mobility groups)
- E. over-the-air provisioning
- F. rogue AP classification

**Correct Answer:** BEF

**Section: (none)**

**Explanation**

**Explanation/Reference:**

Explanation:

First we should learn how the RRM works:

Controllers (whose APs need to have RF configuration computed as a single group) are provisioned with the same RF Group Name. An RF Group Name is an ASCII string each AP will use to determine if the other APs they hear are a part of the same system. (RF groups are groups of controllers that share the same RF group name and whose APs can hear the neighbor messages of each other)

APs periodically send out Neighbor Messages, sharing information about themselves, their controllers, and their RF Group Name. These neighbor messages can then be authenticated by other APs sharing the same RF Group Name.

APs that can hear these Neighbor Messages and authenticate them based on the shared RF Group Name, pass this information (consisting primarily of controller IP address and information on the AP transmitting the neighbor message) up to the controllers to which they are connected.

The controllers, now understanding which other controllers are to be a part of the RF Group, then form a logical group to share this RF information and subsequently elect a group leader.

Equipped with information detailing the RF environment for every AP in the RF Group, a series of RRM algorithms are used to optimize AP configurations.

Information from Radio Resource Management (RRM) monitors the radio resources, performs dynamic channel assignments, provides detection and avoidance of

interference, and provides the dynamic transmit power control (TPC).

The RRM neighbor message contains the following information:

- \* Radio Identifier: If the AP had multiple radios, this field identifies the radio used to transmit the message.

- \* Group ID: The 16-bit value and controller MAC address. This information is used to detect rogue access points. The access points will then check the beacon/probe-response frames in neighboring access point messages to see if they contain an authentication information element (IE) that matches that of the RF group. If the check is successful, the frames are authenticated. Otherwise, the authorized access point reports the neighboring access point as a rogue, records its BSSID in a rogue table, and sends the table to the controller.

- \* WLC IP Address: RF group leader's management IP address. This address is discovered through Over-the-Air Provisioning (OTAP)

- \* AP Channel: The native channel that the AP uses to service clients.

- \* Neighbor Message Channel: The channel the message is sent on.

- \* Power: The power level at which the message is transmitted.

- \* Antenna Pattern: The antenna pattern currently in use Note:

Dynamic channel assignment is used to dynamically allocate access point channel assignments to avoid conflict and to increase capacity and performance. For example, two overlapping channels in the 802.11g band, such as 1 and 2, cannot both simultaneously use 54 Mbps. By effectively reassigning channels, the controller keeps adjacent channels separated, thereby avoiding this problem.

Over-the-Air Provisioning (OTAP) is a method for APs to discover the management IP of a controller over the air.

A rogue AP is an AP that is unknown to the controller.

[http://www.cisco.com/en/US/tech/tk722/tk809/technologies\\_tech\\_note09186a008072c759.shtml](http://www.cisco.com/en/US/tech/tk722/tk809/technologies_tech_note09186a008072c759.shtml)

<http://www.cisco.com/en/US/docs/wireless/controller/5.2/configuration/guide/c52rrm.html>

### QUESTION 231

Which three options relate to event-driven RRM? (Choose three.)

- A. any 802.11n AP models
- B. specific AP models
- C. minimum of AP and WLC
- D. minimum of AP, WLC, and WCS
- E. minimum of AP, WLC, WCS, and MSE
- F. configurable in WLC at 802.11b/g/n > RRM > TPC
- G. configurable in WLC at 802.11b/g/n > RRM > DCA

**Correct Answer:** BCG

**Section:** (none)

**Explanation**



**Explanation/Reference:**

Explanation:

<http://www.cisco.com/c/en/us/td/docs/wireless/controller/7-0/configuration/guide/c70/c70cleanair.html>

**QUESTION 232**

In the AP Layer 3 controller discovery process, after the LWAPP Discovery Request is broadcast on a local subnet, what is the next step that the AP takes?

- A. Determine whether the controller responses are the primary controller.
- B. Send an LWAPP discovery request to controllers learned via OTAP if operational.
- C. Send an LWAPP response to the master controller if known.
- D. Wait 5 seconds and resend a Discovery Request to the local subnet.

**Correct Answer:** B

**Section:** (none)

**Explanation**

**Explanation/Reference:**

Explanation:

**QUESTION 233**

Why are wireless analog video signals that are operating in the 2.4-GHz band particularly harmful to Wi-Fi service?

- A. Analog video is a strong signal and increases the SNR.
- B. Analog video is a constant signal with 100% duty cycle.
- C. Analog video signals are slow frequency hopping and tend to affect the entire band.
- D. Analog Video modulation is the same as Wi-Fi and causes interference.

**Correct Answer:** B

**Section:** (none)

**Explanation**

**Explanation/Reference:**

Explanation:

**QUESTION 234**

What security benefit is enabled by using Management Frame Protection?

- A. Provides encryption of administrator sessions between a wireless client and a wireless LAN controller.
- B. Protects the network infrastructure from denial-of-service attacks that attempt to flood the network with associations and probes.

- C. Prevents the formation of client ad hoc networks within the RF coverage domain.
- D. Detects network reconnaissance probes, like those used by tools like NetStumbler, that attempt to discover the wireless network topology.

**Correct Answer:** B

**Section:** (none)

**Explanation**

**Explanation/Reference:**

Explanation:

#### **QUESTION 235**

The corporate network locates all RADIUS servers at the centralized data center for authentication. The remote offices use access points operating in H-REAP mode using v5.0 code with various local and central switch WLANs. When a remote office has lost connectivity to the main corporate network due to a WAN outage, which two statements correctly describe the status of that remote office when H-REAP access points are operating in standalone mode? (Choose two.)

- A. All Cisco APs with 16 MB of RAM or more can operate as standalone H-REAP.
- B. All clients will continue association until the respective authentication timers expire.
- C. If configured, clients using WPA or WPA2 with PSK and locally switched WLANs will continue to operate.
- D. If configured, locally switched WLANs will continue operation using the backup RADIUS server feature.
- E. If configured, locally switched WLANs will continue operation using Local-EAP for EAP-LEAP and EAP-FAST for up to twenty users.
- F. If configured, locally switched WLANs will continue operation using Local-EAP for EAP-LEAP, EAP-FAST, EAP-TLS, and EAP-PEAP for up to twenty users.

**Correct Answer:** CE

**Section:** (none)

**Explanation**

**Explanation/Reference:**

Explanation:

#### **QUESTION 236**

An AP has been configured for personal wireless access to the Internet using appropriate security and cloaking. Which two items should be configured on the wireless client? (Choose two.)

- A. RF channel
- B. BSS
- C. PSK
- D. 802.1X/EAP
- E. broadcast SSID

- F. manual SSID
- G. IBSS

**Correct Answer:** CF

**Section:** (none)

**Explanation**

**Explanation/Reference:**

Explanation:

Neighboring APs offering the same connection type and parameters use the same name, or service set identifier (SSID, which is a simple ASCII string providing a name to the connection). Neighboring APs offering the same connection use the same SSID, but each AP identifies itself by associating its radio MAC address to the SSID string. This associated MAC address is called the basic service set identifier (BSSID), and it enables stations to know which AP offers which SSID.

#### **QUESTION 237**

The introduction of consumer phones and tablets into enterprise WLANs can have an impact on 802.11a/b/ g/n deployments. The Apple iPhone 4 and iPad 2 are very common examples. Which statement best describes the abilities of these devices?

- A. The Apple iPhone 4 and the iPad 2 use 2.4 GHz and 5 GHz. The Apple iPhone 4 uses only one spatial stream and the iPad 2 uses two spatial streams.
- B. The Apple iPhone 4 uses only 2.4 GHz and the iPad 2 only uses 5 GHz. The Apple iPhone 4 uses only one spatial stream and the iPad 2 uses two spatial streams.
- C. The Apple iPhone 4 uses 2.4 GHz and the iPad 2 uses 2.4 GHz or 5 GHz. The Apple iPhone 4 only uses one spatial stream and the iPad 2 uses two spatial streams.
- D. The Apple iPhone 4 uses 2.4 GHz and the iPad 2 uses 2.4 GHz or 5 GHz. The Apple iPhone 4 and the iPad 2 use only one spatial stream.

**Correct Answer:** D

**Section:** (none)

**Explanation**

**Explanation/Reference:**

Explanation:

The apple iPhone 4 and iPad2 supports only 2.4 Ghz (no 5 Ghz) wireless networks. Support for 5Ghz networks was introduced with the Apple iPhone5 and the iPad 3.

#### **QUESTION 238**

Which key combination provides a detailed wireless connection status for an Apple MacBook running 10.6?

- A. Command + Click the SSID of the network
- B. Alt + Click the SSID of the network

- C. Command + the Airport icon
- D. Option + the Airport icon
- E. Ctrl + the Airport Icon
- F. Option + Click the SSID of the network

**Correct Answer:** D

**Section:** (none)

**Explanation**

**Explanation/Reference:**

Explanation:

You can hold the Option Key while clicking the Airport icon in the menu bar. This will provide you with more information about your connection status such as: data rate, signal strength, channel, etc.

<http://www.swilliamsgroup.com/3-ways-to-display-your-ssid-on-your-macbook/>

#### **QUESTION 239**

You are in a coffee shop and you have connected to their wireless hot- spot. Your Windows 7 wireless client shows five green bars with a yellow shield. Which statement about the level of signal strength and the WLAN security that is present is true?

- A. You have excellent signal strength and a secure network connection.
- B. Your wireless client needs a username and password before it can connect to the WLAN.
- C. You have excellent signal strength and the client is waiting for you to enter a username and password.
- D. Your laptop is not receiving a signal.
- E. Your laptop is receiving an excellent signal and the network security is open.

**Correct Answer:** E

**Section:** (none)

**Explanation**

**Explanation/Reference:**

Explanation:

Five green bars means that the signal you are receiving is excellent (there are up to 5 bars) and the yellow shield is a warning indication signal that the security settings have been set to open, meaning no authentication is needed.

#### **QUESTION 240**

You are sitting in an airport preparing to use a free WLAN. When you look at the connections in your Windows 7 wireless client, you see a network name and three boxes with a yellow shield.

What does this mean?

- A. You cannot connect to this WLAN.
- B. An open ad hoc network is nearby.
- C. The WLAN in the airport is open.
- D. A secure ad hoc network is nearby.
- E. A secure WLAN is in the airport.
- F. You must provide a username and password to access the WLAN in the airport.

**Correct Answer:** B

**Section:** (none)

**Explanation**

**Explanation/Reference:**

Explanation:

You can connect to a detected network by clicking the wireless connection icon in the status bar, clicking an SSID name (the signal strength of the associated AP is represented by green bars, five bars representing the best signal; an exclamation mark inside a yellow shield is displayed if the SSID has no security [Open authentication, no encryption]), clicking Connect and completing the security parameters when applicable.

<http://www.ciscopress.com/articles/article.asp?p=2131139>

#### **QUESTION 241**

How are application-specific devices differentiated from laptop computers in the way they support Cisco Compatible Extensions?

- A. ASDs are required to support only Cisco Compatible Extensions v1 and v2 features. Laptops must support all Cisco Compatible Extensions features.
- B. ASDs are required to support only Cisco Compatible Extensions v5 management features, while laptops are required to support optional features.
- C. Several features that are required for laptops are not required for ASDs.
- D. There is no differentiation. ASDs and laptops must both support the same Cisco Compatible Extensions features.

**Correct Answer:** C

**Section:** (none)

**Explanation**

**Explanation/Reference:**

Explanation:

In each version of CCX some features are classified as optional for ASDs. Examples of ASDs are medical devices, mobile computers, smartphones, and printers. The CCX specification for ASDs is a subset of the CCX specification for laptops. Some CCX features are not required for ASDs because many ASDs lack the computing power or operating system foundation required to support the features.

<http://incenter.medical.philips.com/doclib/enc/fetch/2000/4504/577242/577243/577246/581601/711562/The Value of CCX for Philips PageWriter Cardiographs.pdf%3fnodeid%3d5784998%26vernum%3d1>

#### **QUESTION 242**

Which Cisco AnyConnect module allows troubleshooting for core AnyConnect problems?

- A. telemetry
- B. web security
- C. VPN
- D. NAM
- E. DART
- F. posture
- G. CSSC

**Correct Answer:** E

**Section:** (none)

**Explanation**

**Explanation/Reference:**

Explanation:

AnyConnect offers the DART module that can be used to analyze and troubleshoot connections. The information collected by DART can be examined locally or exported and sent to a network support desk for analysis.

#### **QUESTION 243**

Cisco Client Management Frame Protection is running on a mobility group with two controllers. Which two MFP requirements protect the network? (Choose two.)

- A. forces clients to authenticate, using a secure EAP method only
- B. implements the validation of wireless management frames
- C. requires Cisco Compatible Extensions v5
- D. requires the use of a nonbroadcast SSID
- E. requires Cisco Compatible Extensions v4

**Correct Answer:** BC

**Section:** (none)

**Explanation**

**Explanation/Reference:**

Explanation:

Client MFP encrypts class 3 management frames sent between APs and Cisco Compatible Extension version 5 (CCXv5) --capable client stations, so that both AP and client can take preventive action by dropping spoofed class 3 management frames (management frames) that are passed between an AP and a client station that is authenticated and associated). Client MFP leverages the security mechanisms defined by IEEE 802.11i to protect class 3 unicast management frames. The unicast cipher suite that is negotiated by the STA in the reassociation request's Robust Security Network Information Element (RSNIE) is used to protect both unicast data and class 3 management frames. An AP in workgroup bridge mode, repeater mode, or no-root bridge mode must negotiate either Temporal Key

Integrity Protocol (TKIP) or Advanced Encryption Standard-Cipher Block Chaining Message Authentication Code Protocol (AES-CCMP) to use Client MFP.

Management Frame Protection operation requires a wireless domain service (WDS). MFP is configured at the wireless LAN solution engine (WLSE), but you can manually configure MFP on an AP and WDS.

<http://www.cisco.com/c/en/us/td/docs/routers/access/3200/software/wireless/3200WirelessConfigGuide/ManageFrameProt.html>

#### **QUESTION 244**

Which open standard defines the combination of Extensible Authentication Protocol with Advanced Encryption Standard for providing strong wireless LAN client security?

- A. IEEE 802.1X
- B. IEEE 802.11i
- C. WEP
- D. WPA
- E. WPA2

**Correct Answer:** B

**Section:** (none)

**Explanation**

#### **Explanation/Reference:**

Explanation:

802.11i supersedes the previous security specification, Wired Equivalent Privacy (WEP), which was shown to have security vulnerabilities. Wi-Fi Protected Access (WPA) had previously been introduced by the Wi-Fi Alliance as an intermediate solution to WEP insecurities. WPA implemented a subset of a draft of 802.11i. The Wi-Fi Alliance refers to their approved, interoperable implementation of the full 802.11i as WPA2, also called RSN (Robust Security Network). 802.11i makes use of the Advanced Encryption Standard (AES) block cipher, whereas WEP and WPA use the RC4 stream cipher.

[http://en.wikipedia.org/wiki/IEEE\\_802.11i-2004](http://en.wikipedia.org/wiki/IEEE_802.11i-2004)

#### **QUESTION 245**

When a wireless client is authenticated in a controller-based wireless network, which three pieces of source identification information can be used by the controller for an Access-Request message that is sent to an external RADIUS server? (Choose three.)

- A. wireless client IP address
- B. controller IP address
- C. AP IP address
- D. wireless client MAC address
- E. controller MAC address
- F. AP MAC address

**Correct Answer:** BEF

**Section:** (none)

**Explanation**

**Explanation/Reference:**

Explanation:

From the Call Station ID Type drop-down list, choose IP Address, System MAC Address, or AP MAC Address to specify whether the IP address, system MAC address, or AP MAC address of the originator will be sent to the RADIUS server in the Access-Request message.

<http://www.cisco.com/c/en/us/td/docs/wireless/controller/7-0/configuration/guide/c70/c70sol.html#wp1389032> (Step 3)

#### **QUESTION 246**

Which official port should be used when configuring external RADIUS authentication on a Cisco WLC version 7.0?

- A. 49
- B. 1645
- C. 1646
- D. 1812
- E. 1813

**Correct Answer:** D

**Section:** (none)

**Explanation**

**Explanation/Reference:**

Explanation:

RADIUS authentication uses UDP port 1812, while accounting uses UDP port 1813. Early implementations of RADIUS used ports 1645 and 1646, but that usage is obsolete.

[http://docstore.mik.ua/oreilly/networking\\_2ndEd/fire/ch21\\_07.htm](http://docstore.mik.ua/oreilly/networking_2ndEd/fire/ch21_07.htm)

#### **QUESTION 247**

How many RADIUS servers can be configured globally and per WLAN on a Cisco WLC version 7.0?

- A. 7 global; additional 1 per WLAN
- B. 7 global; additional 3 per WLAN
- C. 17 global; additional 1 per WLAN
- D. 17 global; additional 3 per WLAN
- E. 7 global; reuse of up to 1 maximum per WLAN
- F. 17 global; reuse of up to 1 maximum per WLAN



G. 17 global; reuse of up to 3 maximum per WLAN

**Correct Answer:** G

**Section:** (none)

**Explanation**

**Explanation/Reference:**

Explanation:

You can configure up to 17 RADIUS authentication and accounting servers each.

For example, you may want to have one central RADIUS authentication server but several RADIUS accounting servers in different regions. If you configure multiple servers of the same type and the first one fails or becomes unreachable, the controller automatically tries the second one, then the third one if necessary, and so on.

<http://www.cisco.com/c/en/us/td/docs/wireless/controller/7-0/configuration/guide/c70/c70sol.html>

#### **QUESTION 248**

When the pre-shared key authentication method is used for WPA or WPA2, for which two functions is the pre-shared key used? (Choose two.)

- A. to act as the Group Transient Key during the bidirectional handshake
- B. to act as the Pairwise Master Key during the bidirectional handshake
- C. to derive the nonce at each side of the exchange
- D. to derive the Pairwise Transient Key

**Correct Answer:** BD

**Section:** (none)

**Explanation**

**Explanation/Reference:**

Explanation:

Pre-shared key (PSK) is computed based on a shared secret (pass-phrase) which was previously shared between the two parties using some secure channel before it needs to be used. It is used to identify both peers to each other.

The strength of the PSK depends on the strength of the pass-phrase. The strength of the PSK is important, because WPA-Personal (and WPA2-Personal) use the PSK as the Pairwise Master Key (PMK). The PMK, when combined with two random numbers (nonces) and the MAC addresses of the access point and the client, produces a unique Pairwise Transient Key (PTK) that secures the unicast traffic between the access point and the client. A new PTK is produced each time a client connects to the access point.

#### **QUESTION 249**

When using the CLI command `eping`, configured for auto-anchor mobility wireless guest access, which type of packet is tested?

- A. data packets

- B. mobility unencrypted packets
- C. mobility encrypted packets
- D. SNMP control packets
- E. NTP control packets

**Correct Answer:** A

**Section:** (none)

**Explanation**

**Explanation/Reference:**

Explanation:

Make sure that foreign to anchor communication is possible for mobility traffic. You can test this communication with the eping command (which tests data packets sent to the mobility port UDP 16666) and the mping command (which tests Ethernet over IP encapsulation over the tunnel).

#### **QUESTION 250**

When a wireless guest network is implemented using auto-anchor mobility in a controller-based wireless network, which controller is responsible for a guest client's IP address and their security configuration?

- A. any controller that supports the same VLAN
- B. foreign controller
- C. anchor controller
- D. master controller
- E. RF group master controller

**Correct Answer:** C

**Section:** (none)

**Explanation**

**Explanation/Reference:**

Explanation:

The anchor controller is responsible for termination of guest WLAN traffic and subsequent access to the Internet. Guest traffic egress occurs at the anchor controller, and the anchor controller is responsible for the client IP address via DHCP and their security configuration.

<http://www.cisco.com/c/en/us/td/docs/solutions/Enterprise/Mobility/emob41dg/emob41dg-wrapper/ch10GuAc.html#wp1064207>

#### **QUESTION 251**

You have a small organization with multiple Cisco WCS servers. Management has become cumbersome and you are planning to deploy Cisco WCS Navigator. When the Cisco WCS Navigator has been deployed, how are the existing Cisco WCS servers added to the Cisco WCS Navigator, which software versions are supported, and which protocol(s) do they use to communicate with Navigator?

- A. Cisco WCS Navigator searches the enterprise intranet to locate the existing Cisco WCS servers and adds them automatically using SOAP as long as there is only a difference of one version or less between Cisco WCS and WCS Navigator.
- B. Each existing Cisco WCS server must be added manually and use SOAP/HTTP to communicate with the Cisco WCS Navigator platform as long as the software versions of Cisco WCS and Cisco WCS Navigator are the same.
- C. Cisco WCS must be on the same software version as Cisco WCS Navigator and each Cisco WCS server is added automatically using XML over HTTP.
- D. When Cisco WCS Navigator is added, all the Cisco WCS servers must be added manually, each system must use the same software release as Navigator, and the Cisco WCS communicates with Cisco WCS Navigator by using SOAP/XML over HTTPS.

**Correct Answer:** D

**Section:** (none)

**Explanation**

**Explanation/Reference:**

Explanation:

Please refer to the link to understand this part.

[http://www.cisco.com/c/en/us/products/collateral/wireless/wireless-control-system-navigator/product\\_data\\_sheet0900aecd80633649.html](http://www.cisco.com/c/en/us/products/collateral/wireless/wireless-control-system-navigator/product_data_sheet0900aecd80633649.html)

#### **QUESTION 252**

Which two features are available in the Cisco WCS Plus license over the base license? (Choose two.)

- A. ad hoc rogue detection
- B. high availability between two Cisco WCS stations
- C. mobility service engine management
- D. auto discovery and containment or notification of rogue APs
- E. client location to the nearest AP

**Correct Answer:** BC

**Section:** (none)

**Explanation**

**Explanation/Reference:**

Explanation:

Cisco WCS PLUS license supports Cisco WCS base license features and the following capabilities: mobility services enablement and high availability. An older Cisco WCS Location license is forward compatible and equivalent to a PLUS license. When upgrading to this release, older Location licenses will appear as PLUS licenses. Older Enterprise licenses are also forward compatible and become PLUS licenses when loaded.

The process to provision a Cisco WCS PLUS license is the same as provisioning a current Cisco WCS license.

[http://www.cisco.com/c/en/us/td/docs/wireless/wcs/7-0/configuration/guide/WCS70cg/7\\_0warr.html](http://www.cisco.com/c/en/us/td/docs/wireless/wcs/7-0/configuration/guide/WCS70cg/7_0warr.html)

**QUESTION 253**

Refer to the exhibit.

**Config Audit**

Cisco Prime  
Network Control System

**Audit Summary**

Controller Name	Audit Status	Audit Time	Controller IP Address	Message
Cisco_07:21:43	Identical	2011-May-18, 04:00:03 UTC	10.33.126.2	
Cisco_20:5b:03	Identical	2011-May-18, 04:00:03 UTC	10.32.188.164	
Cisco_32:1b:23	Identical	2011-May-18, 04:00:03 UTC	10.32.37.4	
Cisco_63:c3:03	Mismatch	2011-May-18, 04:00:03 UTC	10.32.52.5	
Cisco_69:51:e0	Mismatch	2011-May-18, 04:00:03 UTC	10.32.36.10	
Cisco_72:16:c3	Mismatch	2011-May-18, 04:00:03 UTC	10.32.53.5	
Cisco_7d:88:00	Mismatch	2011-May-18, 04:00:03 UTC	171.70.35.131	
Cisco_7d:e2:43	Identical	2011-May-18, 04:00:03 UTC	10.194.145.10	
Cisco_7e:fc:23	Identical	2011-May-18, 04:00:03 UTC	10.32.188.162	
Cisco_91:26:03	Identical	2011-May-18, 04:00:03 UTC	10.34.145.84	
Cisco_91:29:83	Identical	2011-May-18, 04:00:03 UTC	10.34.145.86	

Cisco WCS version 7.0 has a configuration mismatch with what is actually running in the controller. Which menu leads to the Audit Status Report?

- A. Security
- B. Monitor
- C. Configure
- D. Services
- E. Administration
- F. Tools

**Correct Answer:** C

**Section:** (none)

**Explanation**

**Explanation/Reference:**

Explanation:

The Configure menu enables you to configure templates, controllers, access points, Ethernet switches, chokepoints, Wi-Fi TDOA receivers, config groups, auto provisioning, scheduled configuration tasks, profiles, ACS view servers, and TFTP servers on your network.

[http://www.cisco.com/c/en/us/td/docs/wireless/wcs/7-0/configuration/guide/WCS70cg/7\\_0wst.html#wp1068994](http://www.cisco.com/c/en/us/td/docs/wireless/wcs/7-0/configuration/guide/WCS70cg/7_0wst.html#wp1068994)

#### **QUESTION 254**

What does the current European Telecommunications Standards Institute rule state is the 2.4-GHz maximum transmitter output power for point-to-point installations?

- A. 16 dBm
- B. 17 dBm
- C. 20 dBm
- D. 30 dBm
- E. 36 dBm

**Correct Answer:** B

**Section:** (none)

**Explanation**

**Explanation/Reference:**

Explanation:

#### **QUESTION 255**

What are two attributes used to characterize antenna performance? (Choose two.)

- A. attenuation
- B. beamwidth
- C. gain
- D. harmony
- E. interference

**Correct Answer:** BC

**Section:** (none)

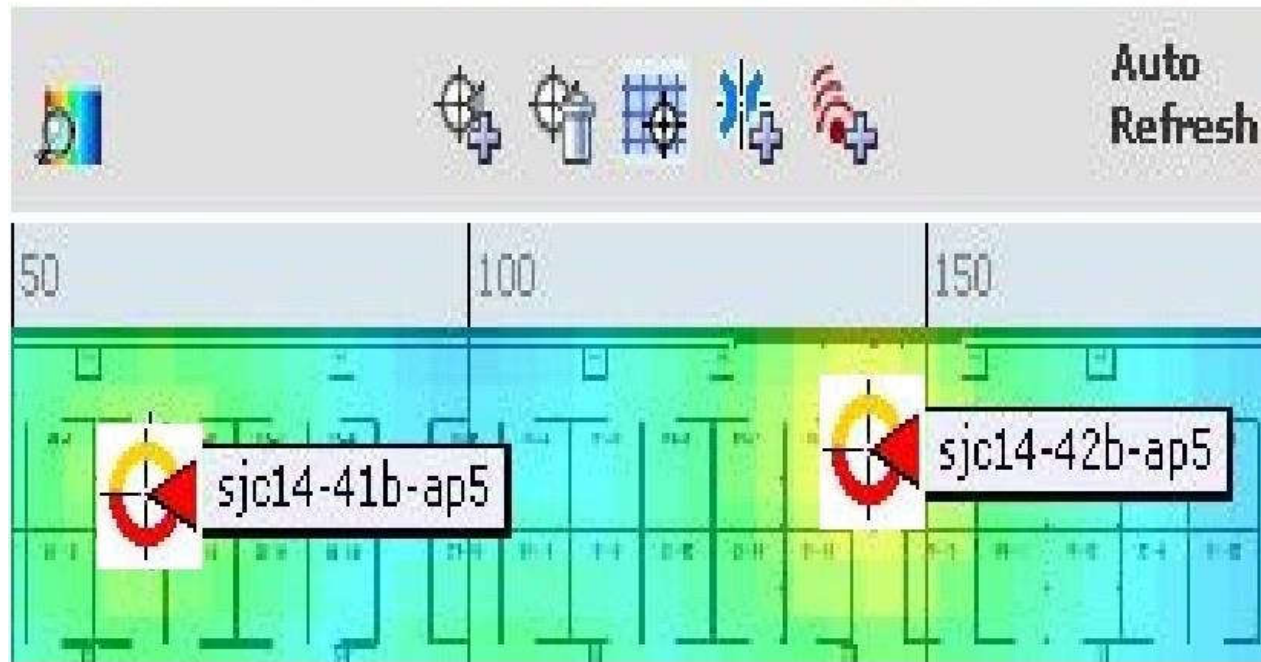
## Explanation

### Explanation/Reference:

Explanation:

### QUESTION 256

Refer to the exhibit.



Which two statements about the status of the respective AP on a Cisco WCS version 7.0 map does this icon represent? (Choose two.)

- A. The 802.11a/n radio is administratively disabled.
- B. The 802.11a/n radio has a minor fault.
- C. The 802.11a/n radio has a major fault.
- D. The 802.11b/g/n radio is administratively disabled.
- E. The 802.11b/g/n radio has a minor fault.
- F. The 802.11b/g/n radio has a major fault.

**Correct Answer:** BF

**Section:** (none)

**Explanation**

**Explanation/Reference:**

Explanation:

The icon with the top half yellow and the lower half red indicates that the optional 802.11a Cisco Radio (top) has a minor fault, and the 802.11b/g Cisco Radio (bottom) has a major or critical fault. The worst of the two Cisco Radio colors determines the color of the large triangular pointer.

<http://www.cisco.com/c/en/us/td/docs/wireless/wcs/7-0MR1/configuration/guide/WCS70MR1/maps.html#wp1090761>

#### **QUESTION 257**

How do the features that are available on the Cisco WCS for Linux version differ from those of the Cisco WCS for Windows version?

- A. Assuming that there are no differences in hardware, a Cisco WCS for Linux can support up to 750 wireless LAN controllers. A Cisco WCS for Windows can support up to 250 wireless LAN controllers.
- B. Cisco WCS for Windows includes support for Cisco Spectrum Expert clients. Cisco WCS for Linux does not support Cisco Spectrum Expert clients.
- C. Cisco WCS for Linux is required for deployments.
- D. There are no differences in features between the Linux and Windows versions of Cisco WCS.

**Correct Answer:** D

**Section:** (none)

**Explanation**

**Explanation/Reference:**

Explanation:

#### **QUESTION 258**

Refer to the exhibit.

## Position access points on Floor Area

Monitor > Maps > floor 01 > Position access points on Floor Area

Select each AP by clicking on it. Update its position, antenna information, height and when done with all APs click on Save.

**Access Points**

**Horiz**

**Vert**

**AP Height**

**Zoom**

-- Select an AP --

(feet)

100 %

Save

Cancel

The image shows a screenshot of a Cisco WCS interface for positioning access points on a floor area. At the top, there is a navigation bar with the path: Monitor > Maps > floor 01 > Position access points on Floor Area. Below the navigation bar is a message: "Select each AP by clicking on it. Update its position, antenna information, height and when done with all APs click on Save." The main interface consists of a control panel at the top and a floor plan map below. The control panel has fields for "Access Points", "Horiz", "Vert", "AP Height", and "Zoom". The "Access Points" field shows "-- Select an AP --". The "Horiz" and "Vert" fields are empty. The "AP Height" field is empty with the unit "(feet)" below it. The "Zoom" field shows "100 %". There are "Save" and "Cancel" buttons to the right of the control panel. The floor plan map shows a grid of rooms and corridors. Several rooms are highlighted in red, and one room is highlighted in green. A label "sjc14-22b-ap3" is visible on the map. The map also shows various room names like "VENDOR COAST", "BILLION BUCK", "MUSIC AREA", "CART & CRUC", "SANITARY", "PUBLIC SPACE", and "CART & CRUC".

If Cisco WCS version 7.0 needs to have APs added, relocated, or removed on a respective map, which menu leads to the correct location to make that adjustment?

- A. Security
- B. Monitor
- C. Configure
- D. Services
- E. Administration
- F. Tools



**Correct Answer:** B

**Section:** (none)

**Explanation**

**Explanation/Reference:**

Explanation:

**QUESTION 259**

Which two statements about the results of the Cisco WCS version 7.0 client troubleshooting tool are true? (Choose two.)

- A. Results of Layers 1 - 3 are provided.
- B. Results of only Layers 2 and 3 are provided.
- C. Results of Layers 4 - 7 are provided.
- D. The tabulated results vary depending on the client type.
- E. Results are provided in a fixed four-part tabulation.
- F. Results are provided in a fixed six-part tabulation.

**Correct Answer:** AD

**Section:** (none)

**Explanation**

**Explanation/Reference:**

Explanation:

**QUESTION 260**

Refer to the exhibit.

The screenshot shows the Cisco Wireless Control System (WCS) interface. The 'Controllers' tab is selected, displaying a table of controllers. The 'Reachability' column shows the status of each controller. The table is as follows:

IP Address	Controller Name	Type	Location	Software Version	Model Group Name	Reachability Status
172.16.1.10	Cont_01	200		3.0.120-01	Yes	Reachable

The 'Most Recent Coverage Holes' section shows a graph of coverage holes over time. The graph shows a peak in coverage holes around 10:00 AM on 7/20/06.

The 'Most Recent Rogue APs' section shows a table of rogue access points. The table is as follows:

MAC Address	SSID	Type	Status	Date/Time
00:03:03:03:03:03	ssid1	AP	Alert	7/20/06 9:32 AM
00:03:03:03:03:03	ssid2	AP	Alert	7/20/06 9:32 AM
00:03:03:03:03:03	ssid3	AP	Alert	7/20/06 9:32 AM
00:03:03:03:03:03	ssid4	AP	Alert	7/20/06 9:32 AM
00:03:03:03:03:03	ssid5	AP	Alert	7/20/06 9:32 AM

The 'Top 5 APs' section shows a table of the top 5 access points. The table is as follows:

AP Name	Map Location	0 Clients	1/2 Clients	Total
ap1	test - floor 1	0	0	0

Which two menus do you click to determine the reachability status of a controller from Cisco WCS? (Choose two.)

- A. Monitor
- B. Reports
- C. Configure
- D. Services
- E. Administration
- F. Tools

**Correct Answer: AC**

**Section: (none)**

**Explanation**

**Explanation/Reference:**

Explanation:

Monitor Menu

The Monitor menu provides you with a top-level description of the devices on your network. You can monitor your network, maps, Google Earth maps, various devices (controllers, access points, clients, tags, chokepoints, Wi-Fi TDOA receivers), RRM, alarms, and events. Configure Menu.

The Configure menu enables you to configure templates, controllers, access points, Ethernet switches, chokepoints, Wi-Fi TDOA receivers, config groups, auto provisioning, scheduled configuration tasks, profiles, ACS view servers, and TFTP servers on your network.

**QUESTION 261**

When using Cisco WCS version 7.0, which two features are available for the client troubleshooting tool when a Cisco Compatible Extensions v5 wireless client gets connected? (Choose two.)

- A. Request CleanAir reports from the client
- B. Send text messages to the client
- C. Aggregated Cisco ACS authentication client information
- D. Request the client to ping the DHCP-supplied IP gateway
- E. Display a summary of client event history

**Correct Answer:** BD

**Section:** (none)

**Explanation**

**Explanation/Reference:**

Explanation:

**QUESTION 262**

Which modulation technique allows you to achieve a data rate of 54Mb/s in the 2.4GHz-band?

- A. Complimentary Code Keying
- B. Differential Binary Phase Shift Keying
- C. Differential Quadrature Phase Shift Keying
- D. Quadrature Amplitude Modulation

**Correct Answer:** D

**Section:** (none)

**Explanation**

**Explanation/Reference:**

Explanation:

**QUESTION 263**

Which limitation applies to the use of the Cisco WLAN Solution Management over Wireless feature?

- A. Controllers must be managed using only secure protocols (that is, SSH and HTTPS), not nonsecure protocols (that is, HTTP and Telnet).
- B. Read-write access is not available; only read-only access is supported.
- C. Uploads and downloads from the controller are not allowed.
- D. Wireless clients can manage other controllers however not the same controller and AP to which the client is associated.

**Correct Answer: C**

**Section: (none)**

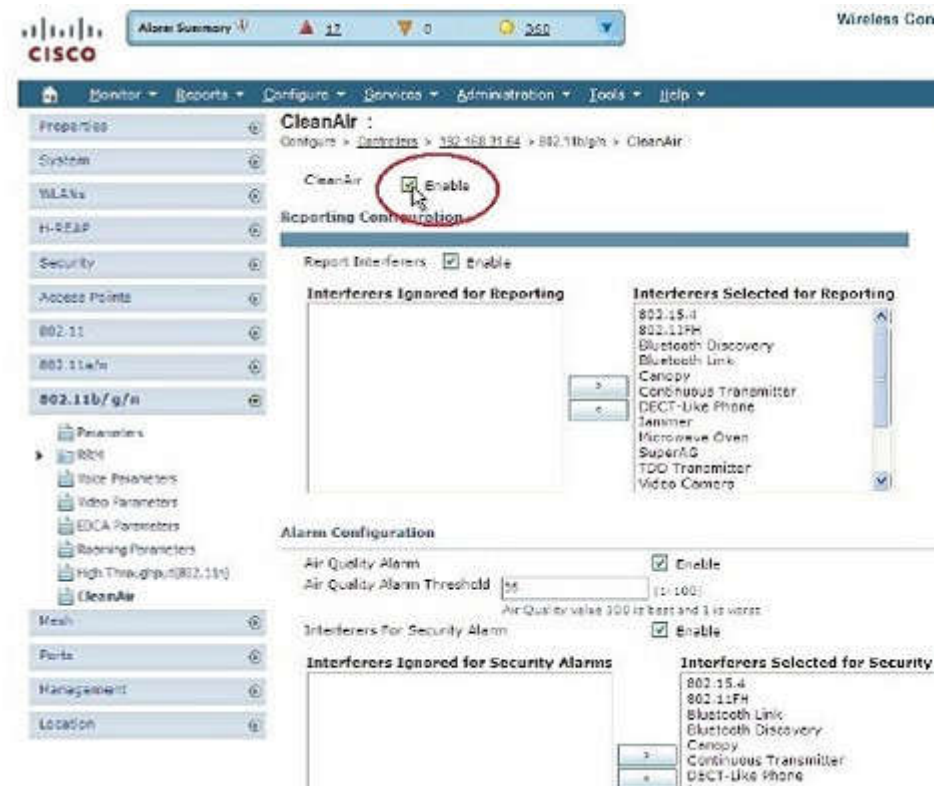
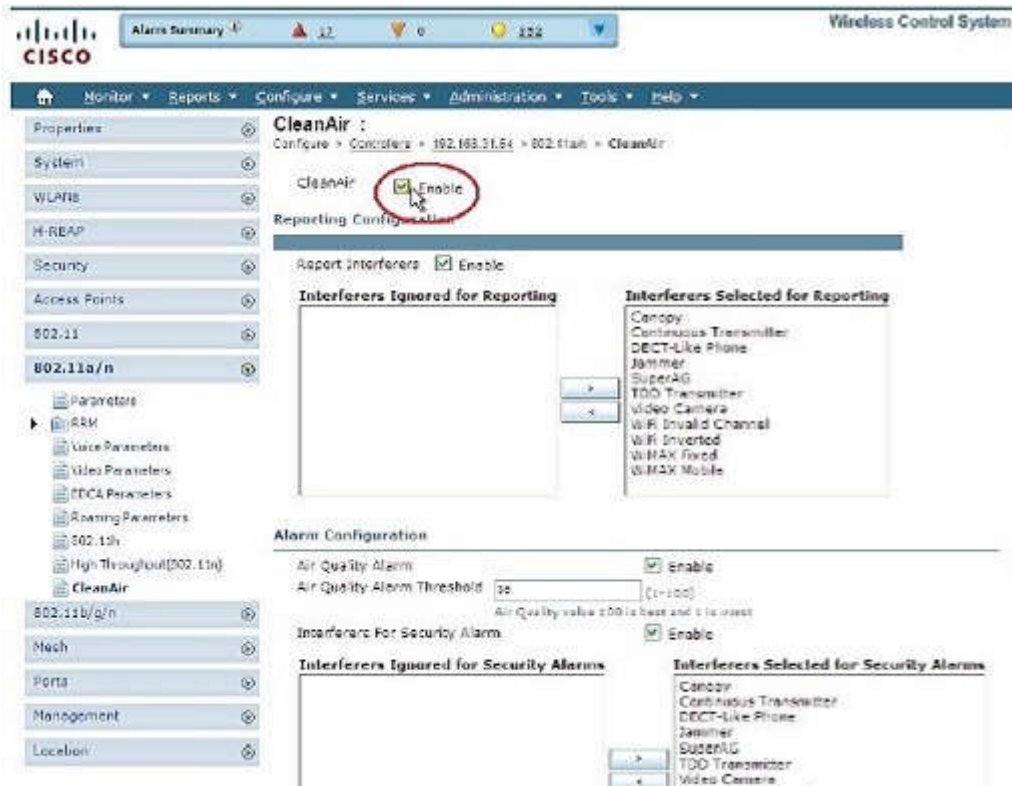
**Explanation**

**Explanation/Reference:**

Explanation:

**QUESTION 264**

Refer to the exhibit.



A wireless network that consists of Cisco Aironet 1260 APs and Cisco 2100 Series WLC has been correctly configured with Cisco WCS version 7, which is also used for management. The CleanAir Zone of Impact is not visible for the respective Cisco WCS maps. Which two issues are causing the problem? (Choose two.)

- A. software version
- B. AP
- C. Cisco WLC
- D. Cisco MSE
- E. Cisco WCS
- F. Cisco WCS is not enabled.

**Correct Answer: BD**

**Section: (none)**

**Explanation**

**Explanation/Reference:**

Explanation:

**QUESTION 265**

The results of a Cisco WCS client troubleshooting tool are summarized into a simple visual representation of a four-part progression of the connection status for a wireless client. What are the four parts? (Choose four.)

- A. client MAC address
- B. 802.11 authentication
- C. IP address assignment
- D. 802.11 association
- E. successful association
- F. authentication method
- G. SSID
- H. client radio type

**Correct Answer:** BCDE

**Section:** (none)

**Explanation**

**Explanation/Reference:**

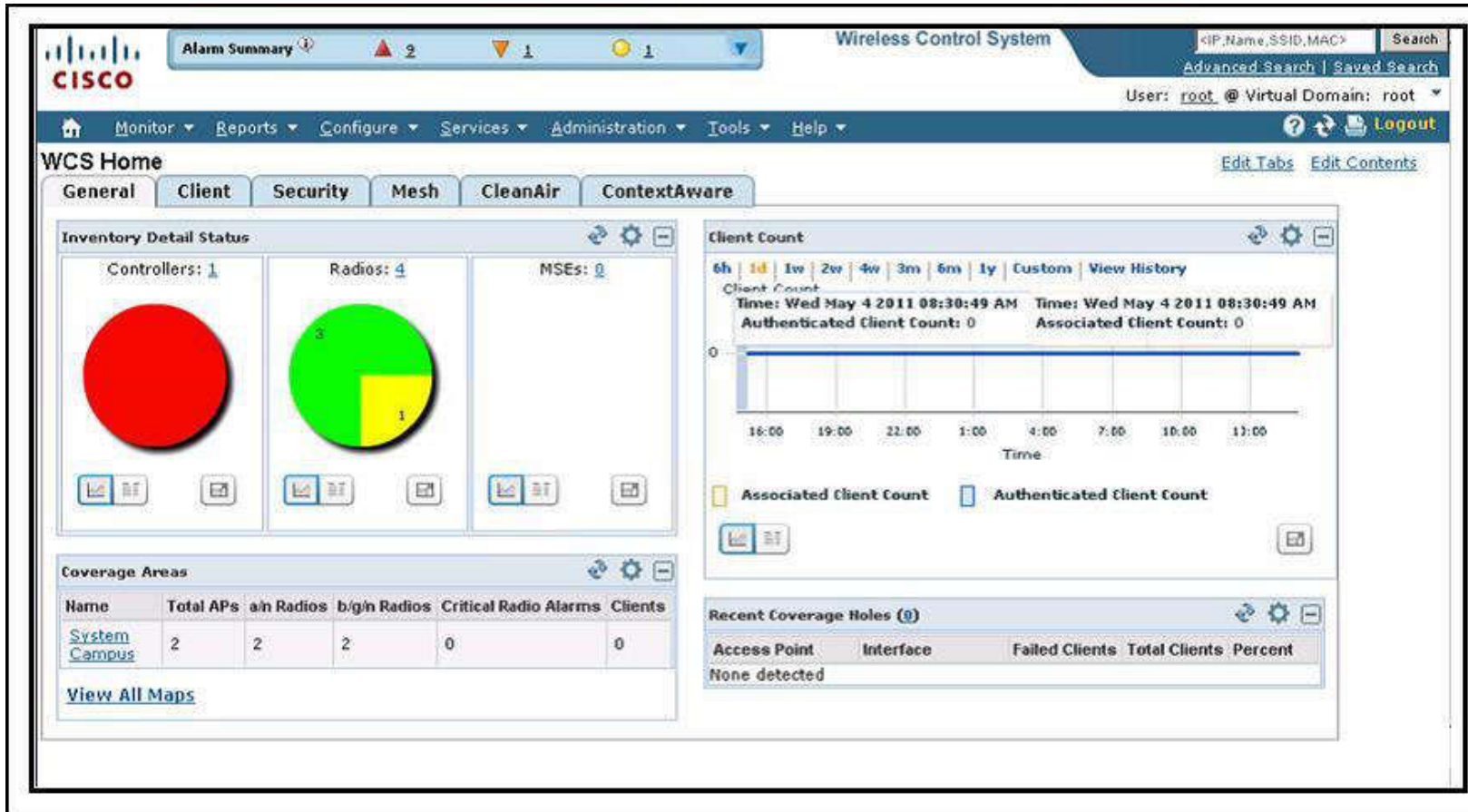
Explanation:

Please refer to this link for more information about the topic.

<http://www.cisco.com/c/en/us/support/docs/wireless/4400-series-wireless-lan-controllers/107585-client-con.html>

**QUESTION 266**

Refer to the exhibit.



Which action allows you to view a summary count by alarm types for the displayed total of 11 alarms?

- A. Choose Monitor > Alarms
- B. Click the Security tab
- C. Click a respective number in the Alarm Summary
- D. Click the Alarm Summary blue arrow
- E. Choose Home (house icon) > Alarm Summary

**Correct Answer: D**

**Section: (none)**

**Explanation**

**Explanation/Reference:**

Explanation:

**QUESTION 267**

Which two statements about the Cisco WLC and AP code upgrade when 7.0 is running are true? (Choose two.)

- A. The AP can download and run new code only after a Cisco WLC reboot causes the AP discovery and join.
- B. The AP can download new code before the Cisco WLC reboot, but only if the AP is configured the CLI via SSH.
- C. The AP can download new code before Cisco WLC reboot if it is configuring the Cisco WLC directly using the GUI via HTTP or HTTPS.
- D. The Cisco WLC defaults to booting newer code, but it can boot older backup code only from the CLI configuration.
- E. The Cisco WLC can boot either primary or back code configured from the GUI.
- F. The Cisco WLC can download only a single code at a time for reboot.

**Correct Answer: CE**

**Section: (none)**

**Explanation**

**Explanation/Reference:**

Explanation:

Each Cisco WLC can boot off the primary, last-loaded OS image or boot off the backup, earlier-loaded OS image. In order to change a Cisco WLC boot option, issue the config boot command. By default, the primary image on the controller will be chosen as the active image. Examples

- config boot primary
- config boot backup

In order to configure the boot order using the WLC GUI, complete these steps: When the WLC reboots and comes back up, it will boot with the backup image.

<http://www.cisco.com/c/en/us/support/docs/wireless/4400-series-wireless-lan-controllers/107530-backup-image-wlc.html>

**QUESTION 268**

You are on the phone working with a colleague that is console connected to a lightweight AP that has lost its configuration.

Which three actions are necessary to allow the AP to connect to a controller? (Choose three.)

- A. Configure the AP IP address.
- B. Configure the controller name.
- C. Configure the controller IP address.
- D. Configure the AP hostname.
- E. Configure the AP IP default-gateway.



F. Configure the AP username and password.

**Correct Answer:** ACE

**Section:** (none)

**Explanation**

**Explanation/Reference:**

Explanation:

In order to manually configure static information on a LAP using the AP CLI interface, you can use these EXEC mode CLI commands:

AP#capwap ap ip address <IP address> <subnet mask>

AP#capwap ap ip default-gateway <IP-address>

AP#capwap ap controller ip address <IP-address>

AP#capwap ap hostname <name>

(optional)

Notice the first 3 are needed for the AP to connect to the controller; the last step is optional and not needed for basic connectivity to the controller.

<http://www.cisco.com/c/en/us/support/docs/wireless/aironet-1200-series/99763-reset-lwappconfig-lap.html>

#### **QUESTION 269**

You have a lightweight AP that has been moved to a new subnet and has become stranded because DNS and DHCP servers are unavailable. The AP cannot connect to the controller. When connected to the console port, which three minimum parameters must you configure? (Choose three.)

- A. AP IP address
- B. controller name
- C. AP hostname
- D. default gateway IP address
- E. controller IP address
- F. username and password

**Correct Answer:** ADE

**Section:** (none)

**Explanation**

**Explanation/Reference:**

Explanation:

In order to manually configure static information on a LAP using the AP CLI interface, you can use these EXEC mode CLI commands:

AP#capwap ap ip address <IP address> <subnet mask>

AP#capwap ap ip default-gateway <IP-address>

AP#capwap ap controller ip address <IP-address>

AP#capwap ap hostname <name>

(optional)

Notice the first 3 are needed for the AP to connect to the controller; the last step is optional and not needed for basic connectivity to the controller.  
<http://www.cisco.com/c/en/us/support/docs/wireless/aironet-1200-series/99763-reset-lwappconfig-lap.html>

#### **QUESTION 270**

Which two statements about WiMAX technology are true? (Choose two.)

- A. WiMAX is defined by 802.11i.
- B. Typically, fixed WiMAX networks have a higher-gain directional antenna installed near the client.
- C. WiMAX is capable of working as a long-range system over several miles.
- D. WiMAX works only for licensed frequencies.

**Correct Answer:** BC

**Section:** (none)

**Explanation**

#### **Explanation/Reference:**

Explanation:

WiMAX is defined by 802.16, that is intended for wireless "metropolitan area networks". WiMAX can provide broadband wireless access (BWA) up to 30 miles (50 km) for fixed stations, and 3 - 10 miles (5 - 15 km) for mobile stations. In contrast, the WiFi/802.11 wireless local area network standard is limited in most cases to only 100 - 300 feet (30 - 100 m). Fixed WiMAX networks typically have a higher -gain directional antenna installed near the client (customer) which results in greatly increased range and throughput. Using 802.11 with high-gain antenna can bridge last-mile gaps, but they require more power. WiMAX operates on both licensed and non-licensed frequencies, providing a regulated environment and viable economic model for wireless carriers. In particular, WiMax operates on the 10-to 66-GHz frequency band, so it doesn't interfere with 802.11 LANs.

#### **QUESTION 271**

Which governing body analyzes the applications and environments in which wireless networks are used?

- A. EIRP
- B. ETSI
- C. FCC
- D. IEEE
- E. WiFi Alliance

**Correct Answer:** D

**Section:** (none)

**Explanation**

#### **Explanation/Reference:**

Explanation:

Hence the various wireless standards prefixed with IEEE. Wireless LANs are described in IEEE 802.11 standard that contains 802.11a, 802.11b, 802.11g, 802.11n, 802.11ac and so forth.

#### **QUESTION 272**

Which description best describes upfade in a multipath environment?

- A. In this situation, multiple signal paths are not sent at exactly the same time. The receiver receives a positive crest on the primary signal and a negative crest on the secondary signal.
- B. In this situation, the multiple signal paths are distorted and difficult to understand.
- C. In this situation, the multiple signal paths are weaker than they should be because the signals are out of phase with each other.
- D. In this situation, the signal is stronger than it should be because multiple signal paths are received twice at exactly the same time, which results in the multiple signals being in-phase.

**Correct Answer:** D

**Section:** (none)

**Explanation**

#### **Explanation/Reference:**

Explanation:

If a signal is received twice at exactly the same time, the secondary wave adds its power to the primary wave, so the receiver gets twice the positive energy (positive crest) at the same instant, then twice the negative energy (negative crest) at the same instant. The result is that both waves add up to twice the amplitude (energy) of a single wave, and both signals are said to be in phase (both signals are said to have an angle of 0 degrees). This rare condition is called upfade. If the second signal negative energy (negative crest) reaches the receiver just when the first signal positive energy (positive crest) also reaches the receiver, both signals can cancel each other, resulting in no signal at all (this is the principle used in noise cancellation headsets).

#### **QUESTION 273**

Which statement about an infrastructure basic service set is true according to IEEE 802.11 specifications?

- A. The set also is called an ad hoc network.
- B. The BSSID is generated from the first wireless client that starts up in the IBSS.
- C. The set enables the use of ESS.
- D. No signals are relayed from one client to another client.

**Correct Answer:** C

**Section:** (none)

**Explanation**

#### **Explanation/Reference:**

Explanation:

The set-up formed by the access point and the stations located within its coverage area are called the basic service set (or infrastructure basic service set, or BSS

for short). Each BSS forms one cell.

We can link several BSS's together (it means we link access points) using a connection called a distribution system in order to form an extended service set or ESS. The distribution system can also be a wired network, a cable between two access points or even a wireless network.

Note: When a station moves from one access point to another in an ESS, it is called roaming.

#### **QUESTION 274**

Which two factors must be considered when evaluating an RF interferer for severity? (Choose two.)

- A. distance from the AP
- B. dBm
- C. the type of security crack being used
- D. duty cycle
- E. number of interfering IP stations in the cell
- F. duplicate SSID

**Correct Answer:** BD

**Section:** (none)

**Explanation**

#### **Explanation/Reference:**

Explanation:

On controller code 7.0 and later, you can configure Event Driven RRM (EDRRM) from the Wireless >802.11a/n [802.11b/g/n] > RRM > DCA page. Enabling EDRRM allows the controller to bypass the 600-second default interval for DCA and change an AP channel immediately if a disturbing non-802.11 interference is detected on the AP channel. You can set the sensitivity threshold to High (60), Medium (50), or Low (35). This threshold refers to the Air Quality index. CleanAir-capable APs (3500 and 3600 Series APs, with their CleanAir capable chipset) can detect and identify non-802.11 interferences and report them to the controller. These APs can report interferers when in local mode and monitor mode. Notice that the AP cannot report to the controller when in Spectrum Only Monitor Mode (SOMM). The controller uses the reported information to list non-802.11 interferers along with their zone of impact and severity and establish an Air Quality Index (AQI) from 100 (perfect) to 0 (network unusable). Notice that the logic of the global AQ index (higher is better) is exactly the opposite of the logic of the individual interferer severity index (higher is more severe, and therefore worse). The severity index is calculated individually by each detecting AP based on the power (signal strength), duty cycle (how often the device uses the air per second), and detected type of interferer. The louder an interferer device, the higher the duty cycle will mean a higher severity index for the reporting AP. The severity index is calculated for a specific device, without regard to what channels are being affected.

#### **QUESTION 275**

Which two items are needed to discover the IP address of a new Cisco Aironet 1260 autonomous AP that just finished booting? (Choose two.)

- A. username = "cisco" and password = "cisco"
- B. username = "Admin" and password = "Cisco"
- C. username = none and password = "Cisco"

- D. show int vlan1
- E. show int bvi1
- F. show int gigabitethernet0
- G. show int radio0-802.11n
- H. show int radio1-802.11n

**Correct Answer:** CE

**Section:** (none)

**Explanation**

**Explanation/Reference:**

Explanation:

Enter your username in the User Name field. The default username is Cisco. Enter the wireless device password in the Password field and press Enter. The default password is Cisco. The Summary Status page appears.

The access point is configured with the factory default values including the IP address (set to receive an IP address using DHCP). To obtain the new IP address for an access point/bridge, you can use the show interface bvi1 CLI command.

[http://www.cisco.com/c/en/us/td/docs/wireless/access\\_point/12-4-25d-JA/Configuration/guide/cg\\_12\\_4\\_25d\\_JA/scg12-4-25d-JA-chap4-first.html](http://www.cisco.com/c/en/us/td/docs/wireless/access_point/12-4-25d-JA/Configuration/guide/cg_12_4_25d_JA/scg12-4-25d-JA-chap4-first.html)

#### **QUESTION 276**

Which statement correctly describes the procedure for a lightweight AP to successfully establish a connection to a controller?

- A. The AP authenticates the received Cisco WLC certificate as valid. The AP then sends its certificate to the controller.
- B. The AP sends its certificate to the controller. The AP then authenticates the received Cisco WLC certificate as valid.
- C. The AP sends its certificate to the RADIUS server. The AP then authenticates the controller certificate as valid.
- D. The AP sends its certificate to the RADIUS server. The AP then authenticates the RADIUS certificate as valid.
- E. The AP authenticates the received RADIUS server certificate as valid. The AP then sends its certificate to the RADIUS server.
- F. The AP authenticates the received RADIUS server certificate as valid. The AP then sends its certificate to the controller.

**Correct Answer:** B

**Section:** (none)

**Explanation**

**Explanation/Reference:**

Explanation:

The controller will respond to all discovery requests without checking certificates or AP credentials. However, join requests must have a valid certificate in order to get a join response from the controller. If the LAP does not receive a join response from its choice, the LAP will try the next controller in the list unless the controller is a configured controller (Primary/Secondary/Tertiary).

<http://www.cisco.com/c/en/us/support/docs/wireless/4400-series-wireless-lan-controllers/99948-lap-notjoin-wlc-tshoot.html#backinfo>

**QUESTION 277**

Which two statements about the requirements to configure inter-controller roaming are true? (Choose two.)

- A. The same mobility domain names are configured across controllers.
- B. The same RF group names are configured across controllers.
- C. The same controller hardware version is configured across controllers.
- D. The same AP manager interface is configured across controllers.
- E. The same virtual interface is configured across controllers.
- F. The same controller software version is configured across controllers.

**Correct Answer:** AE

**Section:** (none)

**Explanation**

**Explanation/Reference:**

Explanation:

All controllers must be configured with the same mobility group name. All controllers must be configured with the same virtual interface IP address. If necessary, you can change the virtual interface IP address by editing the virtual interface name on the Controller > Interfaces page.

If all the controllers within a mobility group are not using the same virtual interface, inter-controller roaming may appear to work, but the handoff does not complete, and the client loses connectivity for a period of time.

<http://www.cisco.com/c/en/us/td/docs/wireless/controller/7-0/configuration/guide/c70/c70mobil.html>

**QUESTION 278**

Which two statements best describe the LAG configuration between a Cisco WLC and a Cisco Catalyst switch? (Choose two.)

- A. The Catalyst switch should be configured for PAgP.
- B. The Catalyst switch should be configured only for Layer 2 load balancing.
- C. The Catalyst switch should be configured for "on" mode.
- D. The Cisco WLC relies on the connected switch to perform the load-balance of traffic.
- E. The Cisco WLC aggregates multiple management interfaces into a single virtual interface.

**Correct Answer:** CD

**Section:** (none)

**Explanation**

**Explanation/Reference:**

Explanation:

### Restrictions for Link Aggregation

You can bundle all eight ports on a Cisco 5508 Controller into a single link.

Terminating on two different modules within a single Catalyst 6500 series switch provides redundancy and ensures that connectivity between the switch and the controller is maintained when one module fails. The controller's port 1 is connected to Gigabit interface 3/1, and the controller's port 2 is connected to Gigabit interface 2/1 on the Catalyst 6500 series switch. Both switch ports are assigned to the same channel group. LAG requires the EtherChannel to be configured for 'mode on' on both the controller and the Catalyst switch.

Once the EtherChannel is configured as on at both ends of the link, the Catalyst switch should not be configured for either Link Aggregation Control Protocol (LACP) or Cisco proprietary Port Aggregation Protocol (PAgP) but be set unconditionally to LAG. Because Cisco WLC relies on the connected switch to perform the load-balance of traffic, the controller does not answer to negotiation frames and the LAG is not formed if a dynamic form of LAG is set on the switch.

Additionally, LACP and PAgP are not supported on the controller.

[http://www.cisco.com/c/en/us/td/docs/wireless/controller/7-4/configuration/guides/consolidated/b\\_cg74\\_CONSOLIDATED/b\\_cg74\\_CONSOLIDATED\\_chapter\\_0100011.html](http://www.cisco.com/c/en/us/td/docs/wireless/controller/7-4/configuration/guides/consolidated/b_cg74_CONSOLIDATED/b_cg74_CONSOLIDATED_chapter_0100011.html)

### QUESTION 279

What is the result when client exclusion is enabled with a timeout value of zero?

- A. Clients are excluded indefinitely.
- B. Clients are never excluded.
- C. Client exclusion is disabled.
- D. Clients must be explicitly included by specifying the MAC address.
- E. Exclusion and inclusion is determined by access list.

**Correct Answer: A**

**Section: (none)**

**Explanation**

**Explanation/Reference:**

Explanation:

### QUESTION 280

An indoor 1240 AP is booting and has obtained an IP address using DHCP. The AP has confirmed prior controller IP addresses from a previously joined mobility group stored in NVRAM. What is the next step the AP performs?

- A. DHCP option 43.
- B. DNS resolution of CISCO-LWAPP-CONTROLLER.localdomain.
- C. Layer 2 LWAPP discovery broadcast.
- D. Layer 3 LWAPP discovery broadcast.

- E. Ping each Cisco WLC to verify its current status.
- F. Select a Cisco WLC based on its position in the configured join selection sequence.

**Correct Answer:** A

**Section:** (none)

**Explanation**

**Explanation/Reference:**

Explanation:

#### **QUESTION 281**

Which AP to Wireless LAN Controller discovery process requires a previous association of the AP with a Cisco WLC?

- A. AP priming
- B. defining a master controller
- C. DHCP Option 6
- D. DHCP Option 43
- E. over-the-air provisioning

**Correct Answer:** A

**Section:** (none)

**Explanation**

**Explanation/Reference:**

Explanation:

#### **QUESTION 282**

What two statements are true about AES-CCMP? (Choose two.)

- A. It is an encryption algorithm used in the 802.11i security protocol.
- B. It is defined in 802.1X.
- C. It is the encryption algorithm used in TKIP implementations.
- D. It is required in WPA.
- E. It is required in WPA2.

**Correct Answer:** AE

**Section:** (none)

**Explanation**



**Explanation/Reference:**

Explanation:

**QUESTION 283**

Which two Cisco Unified Wireless Network capabilities use information that is provided by Radio Resource Management neighbor messages in version 7.0 MR1? (Choose two.)

- A. aggressive load balancing
- B. dynamic channel assignment
- C. hybrid remote edge access point
- D. inter-controller mobility (that is, mobility groups)
- E. rogue AP classification

**Correct Answer:** BE

**Section:** (none)

**Explanation**

**Explanation/Reference:**

Explanation:

<http://www.cisco.com/c/en/us/support/docs/wireless-mobility/wireless-lan-wlan/71113-rrm-new.html>

**QUESTION 284**

Which option lists the key features of Cisco Compatible Extensions v5?

- A. Roaming and real-time diagnostics, MFP, a diagnostic channel that allows troubleshooting of the client, client reporting, optional location service, and expedited bandwidth
- B. AP assisted roam, Cisco Centralized Key Management, radio measurements, and transmit power control
- C. CAC, UPSD, voice metrics, MBSSIDs, location, link tests, and NAC
- D. WME, proxy ARP, EAP-FAST, and WPA2, and single sign-on
- E. LEAP, WPA, 802.1x and VLANs per AP, TKIP, and WiFi

**Correct Answer:** A

**Section:** (none)

**Explanation**

**Explanation/Reference:**

Explanation:

[http://www.cisco.com/web/partners/downloads/765/ccx/Comp\\_Ext\\_CustPreso.pdf](http://www.cisco.com/web/partners/downloads/765/ccx/Comp_Ext_CustPreso.pdf)

**QUESTION 285**

A client is attached to the Cisco Unified Wireless Network using controllers. When the client is using WPA2 and EAP authentication, where are the wireless encryption keys located during the active user session? (Choose two.)

- A. on the access point
- B. on the RADIUS server
- C. on the Cisco WCS
- D. on the client
- E. on the Cisco WLC

**Correct Answer:** AD

**Section:** (none)

**Explanation**

**Explanation/Reference:**

Explanation:

During the Active user session, WEP keys can be located on the access point as well as on the client. Network managers need to provide end users with freedom and mobility without offering intruder's access to the WLAN or the information sent and received on the wireless network. With a WLAN, transmitted data is broadcast over the air using radio waves that travel between client devices, or stations, and access points-the WLAN endpoints on the Ethernet network that link stations to the network. This means that any WLAN client device within an access point service area can receive data transmitted to or from the access point.

**QUESTION 286**

Which Extensible Authentication Protocol types are supported by the Cisco Unified Wireless Network?

- A. EAP-TLS, PEAP-MSCHAPv2, and PEAP-GTC only
- B. LEAP and EAP-FAST only
- C. EAP-TLS, PEAP-MSCHAPv2, PEAP-GTC, LEAP, and EAP-FAST only
- D. any EAP supported by the RADIUS authentication server

**Correct Answer:** D

**Section:** (none)

**Explanation**

**Explanation/Reference:**

Explanation:

Extensible Authentication Protocol, or EAP, is an authentication framework frequently used in wireless networks and point-to-point connections. EAP is an authentication framework providing for the transport and usage of keying material and parameters generated by EAP methods. There are many methods defined by RFCs and a number of vendor specific methods and new proposals exist. EAP is not a wire protocol; instead it only defines message formats. Each protocol that uses EAP defines a way to encapsulate EAP messages within that protocol's messages.  
[http://en.wikipedia.org/wiki/Extensible\\_Authentication\\_Protocol](http://en.wikipedia.org/wiki/Extensible_Authentication_Protocol)

#### **QUESTION 287**

What unit of measurement is used to represent the strength of an antenna's radiation pattern?

- A. dBi
- B. dBm
- C. mW
- D. GHz

**Correct Answer:** A

**Section:** (none)

**Explanation**

**Explanation/Reference:**

Explanation:

#### **QUESTION 288**

Which four parameters must be configured for local EAP-FAST on the controller? (Choose four.)

- A. authority ID
- B. authority ID Information
- C. client key
- D. PAC
- E. server key
- F. TTL for PAC
- G. monitor key
- H. NTP source

**Correct Answer:** ABEF

**Section:** (none)

**Explanation**

**Explanation/Reference:**

Explanation:

EAP-FAST is designed to speed re-authentication when a station roams from one AP to another.

Here are the parameters that can be configured:

Server Key (in hexadecimal): The key (in hexadecimal characters) used to encrypt and decrypt PACs.

Time to Live for the PAC: Enter the number of days for the PAC to remain viable. The valid range is 1 to 1000 days, and the default setting is 10 days.

Authority ID (in hexadecimal): Enter the authority identifier of the local EAP-FAST server in hexadecimal characters. It is possible to enter up to 32 hexadecimal characters, but an even number of characters must be entered. This will identify the controller as the emitter of the PAC.

Authority ID Information: Enter the authority identifier of the local EAP-FAST server in text format.

Anonymous Provision: Enable this setting to allow anonymous provisioning. This feature allows PACs to be sent automatically to clients that do not have one during PAC provisioning. If this feature is disabled, PACS must be manually provisioned. Disable this feature when using EAP-FAST with certificates. The default setting is enabled.

#### **QUESTION 289**

When using a Cisco WLC version 7.0 with a default configuration, how is a remote management HTTPS access connection secured?

- A. The Cisco WLC uses a pre-shared key to authenticate the user, which limits the number of potential users that can access the controller.
- B. The Cisco WLC generates its own local web administration SSL certificate and automatically applies it to the GUI.
- C. The Cisco WLC uses a CA certificate for SSL access.
- D. The Cisco WLC uses HTTPS to secure the HTTP session via a preconfigured password that generates a certificate for each session.

**Correct Answer:** B

**Section:** (none)

**Explanation**

**Explanation/Reference:**

Explanation:

You can protect communication with the GUI by enabling HTTPS. HTTPS protects HTTP browser sessions by using the Secure Socket Layer (SSL) protocol.

When you enable HTTPS, the controller generates its own local web administration SSL certificate and automatically applies it to the GUI. You also have the option of downloading an externally generated certificate.

<http://www.cisco.com/c/en/us/td/docs/wireless/controller/6-0/configuration/guide/Controller60CG/c60intf.html>

#### **QUESTION 290**

Which physical layer encoding technology is common to both the IEEE 802.11g and the IEEE 802.11a standards?

- A. BPSK
- B. CCK

- C. DSSS
- D. OFDM

**Correct Answer:** D

**Section:** (none)

**Explanation**

**Explanation/Reference:**

Explanation:

**QUESTION 291**

Which set of commands assigns a standalone access point an IP address of 10.0.0.24 with a 27-bit subnet mask and a gateway of 10.0.0.1?

- A. 

```
config t interface
BVI1
ip address 10.0.0.24
255.255.255.192 exit
ip default-gateway 10.0.0.1
```
- B. 

```
config t
interface
BVI1
ip address 10.0.0.24
255.255.255.224 exit
ip default-gateway 10.0.0.1
```
- C. 

```
config t
interface FastEthernet1
ip address 10.0.0.24
255.255.255.224 exit
ip default-gateway 10.0.0.1
```
- D. 

```
config t
interface Dot11Radio0
ip address 10.0.0.24
255.255.255.224 exit
ip default-gateway 10.0.0.1
```
- E. 

```
config t
interface FastEthernet1
ip address 10.0.0.24
255.255.255.192 exit
ip default-gateway 10.0.0.1
```
- F. 

```
config t
```

```
interface Dot11Radio0
ip address 10.0.0.24
255.255.255.192 exit
ip default-gateway 10.0.0.1
```

**Correct Answer:** B

**Section:** (none)

**Explanation**

**Explanation/Reference:**

Explanation:

#### **QUESTION 292**

A controller-based wireless solution can avoid interference by dynamically adjusting what two access point transmission characteristics? (Choose two.)

- A. operating RF channel
- B. SSID names
- C. transmit power levels
- D. switch port parameters
- E. antenna gain

**Correct Answer:** AC

**Section:** (none)

**Explanation**

**Explanation/Reference:**

Explanation:

#### **QUESTION 293**

The network administrator receives complaints of slow wireless network performance and performs a sniffer trace of the wireless network in preparation for migration to 802.11n. The sample capture shows frames that contains AP beacons with NonERP\_Present bit set to 1 and frames with RTS/CTS. Which two conclusions can be interpreted from these frames? (Choose two.)

- A. The network is performing slowly because 802.11n clients are already mixed with 802.11g clients.
- B. The network is performing slowly because 802.11b clients still exist in the network.
- C. The network is performing slowly because a wireless client is incorrectly configured, which results in RF interference.
- D. Possible 802.11b wireless clients are located only in the AP cell radius where the sniffer capture was performed.
- E. Possible 802.11b wireless clients could be located anywhere in the wireless network.

**Correct Answer:** BE

**Section:** (none)

**Explanation**

**Explanation/Reference:**

Explanation:

If an ERP AP hears a beacon from an AP where the supported data rates contain only 802.11b or 802.11 DSSS rates, it will enable the NonERP\_Present bit in its own beacons, enabling protection mechanisms in its BSS. In simpler terms, if an 802.11g AP hears a beacon frame from an 802.11 or 802.11b access point or ad hoc client, the protection mechanism will be triggered.

<http://mrnciew.com/2014/11/02/cwap-802-11-protection-mechanism/>

#### **QUESTION 294**

How many dBm is 40 mW?

- A. 10 dBm
- B. 16 dBm
- C. 20 dBm
- D. 22 dBm
- E. 40 dBm

**Correct Answer:** B

**Section:** (none)

**Explanation**

**Explanation/Reference:**

Explanation:

The dB measures the power of a signal as a function of its ratio to another standardized value. The abbreviation dB is often combined with other abbreviations in order to represent the values that are compared. Here are two examples:

You can calculate the power in dBs from this formula:

Power (in dB) =  $10 * \log_{10}(\text{Signal/Reference})$

This list defines the terms in the formula:

Here is an example. If you want to calculate the power in dB of 50 mW, apply the formula in order to get:

Power (in dB) =  $10 * \log_{10}(50/1) = 10 * \log_{10}(50) = 10 * 1.7 = 17 \text{ dBm}$

Because decibels are ratios that compare two power levels, you can use simple math in order to manipulate the ratios for the design and assembly of networks. For example, you can apply this basic rule in order to calculate logarithms of large numbers:

$\log_{10}(A*B) = \log_{10}(A) + \log_{10}(B)$

If you use the formula above, you can calculate the power of 50 mW in dBs in this way:

Power (in dB) =  $10 * \log_{10}(50) = 10 * \log_{10}(5 * 10) = (10 * \log_{10}(5)) + (10 * \log_{10}(10)) = 7 + 10 = 17 \text{ dBm}$  <http://www.cisco.com/c/en/us/support/docs/wireless-mobility/wireless-lan-wlan/23231-powervalues-23231.html>

#### QUESTION 295

Which calculation computes the EIRP of an antenna?

- A.  $\text{EIRP} = \text{Tx power (dBm)} + \text{Antenna Gain (dBi)} - \text{Cable Loss (dB)}$
- B.  $\text{EIRP} = \text{Cable Loss (dB)} + \text{Antenna Gain (dBi)} - \text{Tx power (dBm)}$
- C.  $\text{EIRP} = \text{Cable Loss (dB)} + \text{Antenna Gain (dBi)} / \text{Tx power (dBm)}$
- D.  $\text{EIRP} = \text{Tx power (dBm)} + \text{Antenna Gain (dBi)} / \text{Cable Loss (dB)}$
- E.  $\text{EIRP} = \text{Antenna Gain (dBi)} - \text{Cable Loss (dB)} * \text{Tx power (dBm)}$
- F.  $\text{EIRP} = \text{Tx power (dBm)} * \text{Antenna Gain (dBi)} / \text{Cable Loss (dB)}$

**Correct Answer:** A

**Section:** (none)

**Explanation**

#### Explanation/Reference:

Explanation:

EIRP (Effective Isotropic Radiated Power)

EIRP (Effective Isotropic Radiated Power) is the actual amount of signal leaving the antenna and is a value measured in db and is based on 3 values:

Transmit Power (dBm)

Cable Loss (dB)

Antenna Gain (dBi)

The dB measures the power of a signal as a function of its ratio to another standardized value. The abbreviation dB is often combined with other abbreviations in order to represent the values that are compared. Here are two examples:

dBm --The dB value is compared to 1 mW.

dBw --The dB value is compared to 1 W.

You can calculate the power in dBs from this formula:

$\text{Power (in dB)} = 10 * \log_{10}(\text{Signal/Reference})$

This list defines the terms in the formula:

$\log_{10}$  is logarithm base 10.

Signal is the power of the signal (for example, 50 mW). Reference is the reference power (for example, 1 mW).

How to find EIRP

To determine EIRP follow this equation:

$\text{<Transmit Power> - Cable Loss + Antenna Gain = EIRP}$

<https://supportforums.cisco.com/document/49506/snr-rssi-eirp-and-free-space-path-loss>



**QUESTION 296**

Which three items are allowed on an Ethernet trunk port? (Choose three.)

- A. autonomous AP
- B. FlexConnect AP
- C. local AP
- D. monitor AP
- E. rogue detector AP
- F. sniffer AP
- G. SE-Connect AP
- H. Cisco WLC

**Correct Answer:** ABE

**Section:** (none)

**Explanation**

**Explanation/Reference:**

Explanation:

The basic reason as to why autonomous AP's need trunk ports and lightweight AP's don't does indeed have to do with the capwap tunnel that is used between the AP and the controller.

you can attach the access point that is enabled for FlexConnect to a trunk or access port on the switch.

APs can also be placed in rogue detector mode. In this mode, the rogue detector AP is placed on a trunk port so it can monitor all wired-side connected VLANs, and the AP radios are turned off.

**QUESTION 297**

Which option describes computer-to-computer wireless communication?

- A. BSS and BSA
- B. IBSS and ad hoc network
- C. ad hoc network and BSA
- D. IBSS and ESS
- E. ESS and BSA
- F. BSS and ad hoc network

**Correct Answer:** B

**Section:** (none)

**Explanation**

**Explanation/Reference:**

Explanation:

Ad-hoc mode is an 802.11 networking framework in which devices or stations communicate directly with each other, without the use of an access point (AP). Ad-hoc mode is also referred to as peer-to-peer mode or an Independent Basic Service Set (IBSS). Ad-hoc mode is useful for establishing a network where wireless infrastructure does not exist or where services are not required.

[http://www.webopedia.com/TERM/A/ad\\_hoc\\_mode.html](http://www.webopedia.com/TERM/A/ad_hoc_mode.html)

**QUESTION 298**

Which two statements about AES-CCMP are true? (Choose two.)

- A. It is an encryption algorithm used in the 802.11i security protocol.
- B. It is defined in 802.1X.
- C. It is the encryption algorithm used in TKIP implementations.
- D. It is required in WPA.
- E. It is required in WPA2.

**Correct Answer:** AE

**Section:** (none)

**Explanation**

**Explanation/Reference:**

Explanation:

WPA2 has replaced WPA. WPA2, which requires testing and certification by the Wi-Fi Alliance, implements the mandatory elements of IEEE 802.11i. In particular, it includes mandatory support for CCMP, an AES-based encryption mode with strong security.

[http://en.wikipedia.org/wiki/Wi-Fi\\_Protected\\_Access](http://en.wikipedia.org/wiki/Wi-Fi_Protected_Access)

**QUESTION 299**

Effective Isotropic Radiated Power is calculated by using which three values? (Choose three.)

- A. antenna bandwidth
- B. antenna gain
- C. cable loss
- D. receiver sensitivity
- E. SSID
- F. transmission power

**Correct Answer:** BCF

**Section:** (none)

**Explanation**

**Explanation/Reference:**

Explanation:

**QUESTION 300**

Which statement best represents the authorization aspect of AAA?

- A. Authorization takes place after a successful authentication and provides the Cisco WLC the information needed to allow client access to network resources.
- B. Authorization is the validation of successful DHCP address delivery to the wireless client.
- C. Authorization must be successfully completed in order to proceed with the authentication phase.
- D. Successful authorization will provide encryption keys that will be used to secure the wireless communications between client and AP.

**Correct Answer:** A

**Section:** (none)

**Explanation**

**Explanation/Reference:**

Explanation:

**QUESTION 301**

What increases bandwidth and resists multipath problems by carrying data in subcarriers?

- A. Direct Sequence Spread Spectrum
- B. Frequency Hopping Spread Spectrum
- C. Narrow Band Frequency
- D. Orthogonal Frequency Division Multiplexing

**Correct Answer:** D

**Section:** (none)


**Explanation**

**Explanation/Reference:**

Explanation:

**QUESTION 302**

Refer to the exhibit.



# Wireless Control System

Username: root | Logout | Refresh | Print View

[Monitor](#)
[Reports](#)
[Configure](#)
[Location](#)
[Administration](#)
[Help](#)

## Background Tasks

-- Select a command -- **GO**

### Data Collections

Data Set	Enabled	Interval	Status	Data Aggregation	Non-Aggregation Data Retain Period (Days)
<input type="checkbox"/> <a href="#">Client Statistics</a>	Enabled	15 min.	Idle	Yes	31
<input type="checkbox"/> <a href="#">Controller Performance</a>	Enabled	15 min.	Idle	Yes	31
<input type="checkbox"/> <a href="#">Location Server Performance</a>	Enabled	15 min.	Idle	Yes	31
<input type="checkbox"/> <a href="#">Mesh link Performance</a>	Enabled	10 min.	Idle	Yes	31
<input type="checkbox"/> <a href="#">Radio Performance</a>	Enabled	15 min.	Idle	Yes	31
<input type="checkbox"/> <a href="#">Rogue AP</a>	Enabled	120 min.	Idle	No	31
<input type="checkbox"/> <a href="#">Traffic Stream Metrics</a>	Enabled	8 min.	Idle	Yes	31

### Other Background Tasks

Data Set	Enabled	Interval	Status
<input type="checkbox"/> <a href="#">Configuration Backup</a>	Enabled	1 day at 22:00	Idle
<input type="checkbox"/> <a href="#">Data Cleanup</a>	Enabled	1 day at 01:00	Idle
<input type="checkbox"/> <a href="#">Device Status</a>	Enabled	5 min.	Running
<input type="checkbox"/> <a href="#">Location Server Backup</a>	Disabled	7 day at 01:00	Disabled
<input type="checkbox"/> <a href="#">Location Server Status</a>	Enabled	5 min.	Idle
<input type="checkbox"/> <a href="#">Location Server Synchronization</a>	Enabled	1 day at 01:00	Idle
<input type="checkbox"/> <a href="#">Network Audit</a>	Enabled	1 day at 01:00	Idle
<input type="checkbox"/> <a href="#">WCS Server Backup</a>	Enabled	7 day at 01:00	Idle

### Alarm Summary

Rogue AP	0	135
Coverage Hole	0	137
Security	9	2
Controllers	1	0
Access Points	768	42
Mesh Links	0	0
Location	1	14

Which menu gives you access to manage background tasks in Cisco WCS?

- A. Monitor
- B. Configure
- C. Services
- D. Administration
- E. Tools

**Correct Answer:** D

**Section:** (none)

**Explanation**

**Explanation/Reference:**

Explanation:

**QUESTION 303**

Which two statements best describe LWAPP? (Choose two.)

- A. Cisco proprietary
- B. communication between the AP and client
- C. communication between the AP and the WLC
- D. Lightweight Access Point provisioning
- E. used to encrypt control and data packets

**Correct Answer:** AC

**Section:** (none)

**Explanation**

**Explanation/Reference:**

**QUESTION 304**

What is fading?

- A. Another signal source is producing energy on the channel in which you are trying to operate.
- B. The desired signal reaches the receiving antenna via multiple paths, each of which has a different propagation delay and path loss.
- C. A time-varying change in the path loss of a link with the time variance governed by the movement of objects in the environment, including the transmitter and receiver themselves.
- D. A function of the frequency and should be provided in the cable specification by the vendor.
- E. The minimum signal level for the receiver to be able to acceptably decode the information.
- F. The time delay from the reception of the first instance of the signal until the last instance.

**Correct Answer:** C

**Section:** (none)

**Explanation**

### Explanation/Reference:

Explanation:

### QUESTION 305

Refer to the exhibit.

The screenshot displays the Cisco Wireless Control System (WCS) interface. At the top, the 'Access Points' status bar shows 114 up, 0 down, and 3 warning. The main navigation bar includes links for Monitor, Reports, Configure, Services, Administration, Tools, and Help. The left sidebar lists various configuration categories: System, WLANs, H-REAP, Security, 802.11a/n, 802.11b/g/n, Mesh, and Management (selected). Under Management, sub-items include Trap Receivers, Trap Control, Telnet SSH (selected), Legacy Syslog, Multiple Syslog, Local Management Users, and Authentication Priority. The main content area is titled 'Controller Template 'TelnetConfig\_10115251'' and shows the configuration for this specific template. The configuration fields are: Template Name (TelnetConfig\_10115251), Applied To Controllers (0), Session Timeout (0 mins), Maximum Sessions (5), Allow New Telnet Session (No), and Allow New SSH Session (Yes). At the bottom of the configuration area are buttons for Save, Apply to Controllers..., Delete, and Cancel.

How do improperly set Telnet/SSH parameters effect the configuration of a controller with Cisco WCS?

- A. The CLI and GUI management of the controller both fail because Cisco WCS checks these credentials before opening a session.
- B. The Telnet/SSH username must have sufficient privileges to execute commands in CLI templates.
- C. The GUI management of the controller fails because the Cisco WCS uses the Telnet/SSH parameters to login to the controller.
- D. The controller remains configured in the Cisco WCS, but no management is possible through GUI from other client browsers.

**Correct Answer:** B

**Section:** (none)

**Explanation**

**Explanation/Reference:**

Explanation:

Enter the Telnet credentials information for the controller. If you chose the File option and added multiple controllers, the information will apply to all specified controllers. If you added controllers from a CSV file, the username and password information is obtained from the CSV file.

Note: The Telnet/SSH username must have sufficient privileges to execute commands in CLI templates.

[http://www.cisco.com/c/en/us/td/docs/wireless/wcs/7-0/configuration/guide/WCS70cg/7\\_0ctrlcfg.html#wp1041451](http://www.cisco.com/c/en/us/td/docs/wireless/wcs/7-0/configuration/guide/WCS70cg/7_0ctrlcfg.html#wp1041451)

### **QUESTION 306**

What three roles are defined by 802.1X? (Choose three.)

- A. AAA Server
- B. Authenticatee
- C. Authenticator
- D. Authentication Server
- E. Supplicant

**Correct Answer:** CDE

**Section:** (none)

**Explanation**

**Explanation/Reference:**

Explanation:

### **QUESTION 307**

Refer to the exhibit.



Wireless Control System

Username: root | Logout | Refresh | Print View

Monitor
Reports
Configure
Location
Administration
Help

Quick Search

Search Maps

Saved Searches
Edit

Alarm Summary

Rogue AP	0	136
Coverage Hole	0	0
Security	0	0
Controllers	0	0
Access Points	19	1
Mesh Links	0	0
Location	0	0

Maps

<input type="checkbox"/> Name	Type ▲	Total APs	a Radios	b/g Radios	OOS Radios	Clients	Status
<input type="checkbox"/> <a href="#">SJ Site</a>	Campus	0	0	0	0	0	●
<input type="checkbox"/> <a href="#">Campus Site</a>	Campus	0	0	0	0	0	●
<input type="checkbox"/> <a href="#">SJ Site &gt; Building3</a>	Building	0	0	0	0	0	●
<input type="checkbox"/> <a href="#">Campus Site &gt; Building1</a>	Building	0	0	0	0	0	●
<input type="checkbox"/> <a href="#">Campus Site &gt; Building2</a>	Building	0	0	0	0	0	●
<input type="checkbox"/> <a href="#">SJ Site &gt; Building3 &gt; New Floor</a>	Floor Area	0	0	0	0	0	●
<input type="checkbox"/> <a href="#">Campus Site &gt; Building1 &gt; T Floor</a>	Floor Area	0	0	0	0	0	●
<input type="checkbox"/> <a href="#">Campus Site &gt; Building1 &gt; B1 Floor1</a>	Floor Area	0	0	0	0	0	●
<input type="checkbox"/> <a href="#">Campus Site &gt; Building2 &gt; U Floor</a>	Floor Area	0	0	0	0	0	●
<input type="checkbox"/> <a href="#">Campus Site &gt; Building2 &gt; G Floor2</a>	Floor Area	0	0	0	0	0	●

Which GUI item do you click to configure maps with APs in Cisco WCS?

- A. Configure
- B. Client
- C. CleanAir
- D. Services
- E. Administration
- F. Monitor

**Correct Answer:** F

**Section:** (none)

**Explanation**

**Explanation/Reference:**



Explanation:

The Monitor menu provides you with a top level description of the devices on your network. You can monitor your network, maps, various devices, security, alarms, events, or reports.

[http://www.cisco.com/c/en/us/td/docs/wireless/wcs/5-2/configuration/guide/WCS5\\_2cg/5\\_2wst.html#wp1060563](http://www.cisco.com/c/en/us/td/docs/wireless/wcs/5-2/configuration/guide/WCS5_2cg/5_2wst.html#wp1060563)

#### **QUESTION 308**

What is an MBSSID?

- A. a virtual AP configured on a physical AP that share a single physical device, which is one half-duplex radio
- B. a set of physical APs configured in a BSA to form cells that are controlled by a single controller
- C. the group of clients that are allowed to gain access to one or more SSIDs configured in an AP
- D. the identified overlap area between two cells, which identifies the clients that are operating in that area at any given time

**Correct Answer:** A

**Section:** (none)

**Explanation**

#### **Explanation/Reference:**

Explanation:

Some APs can offer only one SSID per radio. Other APs have a slot of MAC addresses available and can support several SSIDs per radio, using Multiple BSSIDs (MBSSID). MBSSIDs basically are virtual APs that still share the same physical device, which has a half-duplex radio. MBSSIDs are a way to differentiate the traffic reaching the AP, not a way to increase the capacity of the AP.

#### **QUESTION 309**

A Cisco Aironet 1260 AP is unable to join a Cisco 2500 Series WLC that is connected through a Layer 2 switch.

Which three options help to verify the wireless network operation and locate a possible issue? (Choose three.)

- A. Verify status of GUI Wireless > Country
- B. Verify status of GUI Wireless > Timers
- C. Verify status of GUI WLANs > ID > Advanced
- D. CLI debug of dot11
- E. CLI debug of DHCP
- F. Verify Cisco WLC license
- G. Verify Cisco WLC model

**Correct Answer:** AEF

**Section: (none)**

**Explanation**

**Explanation/Reference:**

Explanation:

See reference link below for troubleshooting.

"Troubleshoot a Lightweight Access Point Not Joining a Wireless LAN Controller"

<http://www.cisco.com/c/en/us/support/docs/wireless/4400-series-wireless-lan-controllers/99948-lap-notjoin-wlc-tshoot.html#topic1>

**QUESTION 310**

An AP has been configured for personal wireless access to the Internet.

Which item should be configured on the wireless client?

- A. RF channel
- B. BSS
- C. PSK
- D. 802.1X/EAP
- E. broadcast SSID
- F. IBSS

**Correct Answer: C**

**Section: (none)**

**Explanation**

**Explanation/Reference:**

Explanation:

Using Pre-shared keys (PSK) is the easiest and best method for allowing Internet access to a wireless client using an access point.

**QUESTION 311**

You need to set up an ad hoc connection to another client in a conference room to exchange files using Windows 7.

Which two items do you need to create this connection? (Choose two.)

- A. SSID name
- B. RF channel
- C. 802.1X/EAP credentials
- D. pre-shared key
- E. Telnet
- F. IBSS name

G. SSH

**Correct Answer:** DF

**Section:** (none)

**Explanation**

**Explanation/Reference:**

Explanation

Explanation:

wireless ad-hoc network is when two or more wireless nodes communicate directly on a peer-to-peer basis with no wireless network infrastructure. This is also referred to as an independent basic service set (IBSS). Wireless ad-hoc networks are typically formed on a temporary basis to rapidly enable communication between hosts, such as to exchange files during a spontaneous meeting or between hosts at home. The pre-shared key and the IBSS name need to be configured to allow for this.

[http://www.cisco.com/c/en/us/td/docs/solutions/Enterprise/Mobility/secwlandg20/sw2dg/ch7\\_2\\_SPMb.html](http://www.cisco.com/c/en/us/td/docs/solutions/Enterprise/Mobility/secwlandg20/sw2dg/ch7_2_SPMb.html)

#### **QUESTION 312**

Which option describes why most wireless phones and tablets do not use 802.11a/n and 40 MHz channels?

- A. a lack of radio range when using these radios
- B. a lack of device battery capacity to operate concurrent a/b/g/n radios
- C. a lack of cooling in the device necessary to operate these radios
- D. These radios would require the devices to be larger.

**Correct Answer:** B

**Section:** (none)

**Explanation**

**Explanation/Reference:**

Explanation:

#### **QUESTION 313**

An AP was reset while working on the correct association to a Cisco WCS version 7.0. Which item was cleared during the reset?

- A. static IP address
- B. the location ID of the AP
- C. WLC primary, secondary, tertiary
- D. AP name
- E. certificate

F. Nothing was cleared.

**Correct Answer:** F

**Section:** (none)

**Explanation**

**Explanation/Reference:**

Explanation:

Reset --Sets the table to the default display so nothing will be cleared.

#### **QUESTION 314**

Which two actions would you use to begin to troubleshoot an access point that fails to join a wireless LAN controller successfully? (Choose two.)

- A. SSH to the AP.
- B. SSH to the Cisco WCS.
- C. SSH to the Cisco WLC.
- D. Issue the Cisco WLC command debug capwap events enable
- E. Issue the Cisco WLC command show capwap events

**Correct Answer:** CD

**Section:** (none)

**Explanation**

**Explanation/Reference:**

Explanation:

The controller supports the use of the Telnet and Secure Shell (SSH) protocols to troubleshoot lightweight access points. Using these protocols makes debugging easier, especially when the access point is unable to connect to the controller. You can monitor the APs dialog with the controller using the debug capwap family of commands.

#### **QUESTION 315**

Refer to the exhibit.

## Config Audit

### Cisco Prime Network Control System

#### Audit Summary

Controller Name	Audit Status	Audit Time	Controller IP Address	Message
Cisco_7e:fc:23	Identical	2011-May-18, 04:00:03 UTC	10.32.188.162	
Cisco_7d:e2:43	Identical	2011-May-18, 04:00:03 UTC	10.194.145.10	
Cisco_91:29:83	Identical	2011-May-18, 04:00:03 UTC	10.34.145.86	
Cisco_63:c3:03	Mismatch	2011-May-18, 04:00:03 UTC	10.32.52.5	
Cisco_69:51:e0	Mismatch	2011-May-18, 04:00:03 UTC	10.32.36.10	
Cisco_72:16:c3	Mismatch	2011-May-18, 04:00:03 UTC	10.32.53.5	
Cisco_7d:88:00	Mismatch	2011-May-18, 04:00:03 UTC	171.70.35.131	
Cisco_20:5b:03	Identical	2011-May-18, 04:00:03 UTC	10.32.188.164	
Cisco_07:21:43	Identical	2011-May-18, 04:00:03 UTC	10.33.126.2	
Cisco_91:26:03	Identical	2011-May-18, 04:00:03 UTC	10.34.145.84	
Cisco_32:1b:23	Identical	2011-May-18, 04:00:03 UTC	10.32.37.436	

You made a manual configuration change to a controller and now you need to compare the controller configuration seen on Cisco WCS to the configuration that is present in the controller. Which menu can you use to do compare the configurations?

- A. Reports
- B. Monitor
- C. Configure
- D. Services
- E. Administration
- F. Tools

**Correct Answer: C**

**Section: (none)**

**Explanation**

**Explanation/Reference:**

Explanation

**QUESTION 316**

Which portion of a WLAN deployment can WLC message logs help to troubleshoot?

- A. RF issues
- B. encryption issues between APs and clients
- C. configuration verification issues
- D. infrastructure and client Issues
- E. AP placement issues

**Correct Answer:** D

**Section:** (none)

**Explanation**

**Explanation/Reference:**

Explanation:

The message logs include information related to the network infrastructure, client issues, authentication issues, and AP association issues

**QUESTION 317**

Configurations are commonly uploaded and downloaded to a WLC. Which options are other examples of a file that can be uploaded from a Cisco 2500 Series WLC?

- A. packet capture
- B. crash file
- C. code
- D. login banner
- E. PAC

**Correct Answer:** B

**Section:** (none)

**Explanation**

**Explanation/Reference:**

Explanation:

From Management > Tech Support, you can access useful information, such as controller crash files or AP crash logs (which logs the reasons for the crash). These files are usually transmitted to advanced tech support or TAC but usually not managed directly by Wireless CCNAs. Then, from the Command > Upload

page in the web interface, you can upload the configuration file or other system files (event logs, message logs, trap logs, crash file, debug file, wireless attack signatures file, etc).

#### **QUESTION 318**

The wireless network is using controller-based APs and version 7.0 MR1. The APs appear to be connected properly to the controllers. A wireless user near one of the APs reports that they are unable to connect to the network with their pre-shared key. Which option shows the GUI path where you can check the connection status of that client?

- A. WLANs > WLAN\_ID > Advanced
- B. Security > Clients
- C. Security > Advanced > Clients
- D. Monitor > Clients
- E. Wireless > 802.11b/g/n > clients

**Correct Answer:** D

**Section:** (none)

**Explanation**

#### **Explanation/Reference:**

Explanation:

Choose Monitor > Clients to open the Clients page.

This page lists all of the clients that are associated to the controller's access points. It provides the following information for each client:

[http://www.cisco.com/c/en/us/td/docs/wireless/controller/7-4/configuration/guides/consolidated/b\\_cg74\\_CONSOLIDATED/b\\_cg74\\_CONSOLIDATED\\_chapter\\_010000000.html](http://www.cisco.com/c/en/us/td/docs/wireless/controller/7-4/configuration/guides/consolidated/b_cg74_CONSOLIDATED/b_cg74_CONSOLIDATED_chapter_010000000.html)

#### **QUESTION 319**

You are about to use a hotel's guest wireless services using a wireless laptop. Which three items do you need to establish a wireless connection? (Choose three.)

- A. SSID name
- B. RF channel
- C. RF signal
- D. 802.1X/EAP credentials
- E. pre-shared key
- F. web page
- G. WPA/WPA2 settings

**Correct Answer:** ACF

**Section:** (none)

**Explanation**

**Explanation/Reference:**

Explanation:

Another common authentication method, especially for guest networks (for example, in hotels, where Internet access must be simple, requiring only an SSID with decent RF signal in each room and a web page to authenticate the user, regardless of the underlying operating system), is Web authentication.

**QUESTION 320**

You have an Apple IOS iPhone4 that is used on your home Wi-Fi network and a personal laptop that is used on your work's enterprise wireless network. At your office, you are unable to see the enterprise wireless network on your iPhone4.

What is the most likely cause of this issue?

- A. WPA2 CPU intensive encryption is not supported on the client.
- B. WPA2 must be enabled on the client.
- C. A new profile must be created on the client.
- D. Wi-Fi must be enabled on the client.
- E. The enterprise is 2.4 GHz only.
- F. The enterprise is 5 GHz only.
- G. The RF channel must be adjusted on the client.

**Correct Answer:** F

**Section:** (none)

**Explanation**

**Explanation/Reference:**

Explanation:

The iPhone4 only supports 2.4 Ghz wireless. 5 Ghz wireless support was added with the iPhone5.

**QUESTION 321**

When Cisco AnyConnect modules are installed on a PC, which module must be installed first?

- A. telemetry
- B. web security
- C. VPN
- D. NAM
- E. DART
- F. posture
- G. CSSC



**Correct Answer:** C

**Section:** (none)

**Explanation**

**Explanation/Reference:**

Explanation:

The VPN module is mandatory for all other modules to function correctly and must be installed first. Even if the VPN module is not selected for installation, it will be pushed and installed on the client.

<http://www.cisco.com/c/en/us/support/docs/security/anyconnect-secure-mobility-client/118714-configure-ise-00.html>

### **QUESTION 322**

You have an organization that has a growing number of standalone APs. You would like to migrate to lightweight APs and manage them through Cisco WCS. Which software platform allows you to make this migration?

- A. The enterprise version of Cisco WCS allows this migration and provides the most flexibility in the number of APs supported.
- B. CiscoWorks WLSE is the only management platform that allows this migration, but it is limited to 500 APs.
- C. You can migrate your network to Cisco WCS single server with the CiscoWorks WLSE upgrade software upgrade.
- D. You can migrate the network by using either the single server or enterprise software platforms, both using the CiscoWorks WLSE upgrade software upgrade.

**Correct Answer:** C

**Section:** (none)

**Explanation**

**Explanation/Reference:**

Explanation:

<http://www.cisco.com/c/en/us/td/docs/wireless/wcs/4-1/configuration/guide/wcscfg41/wcswarr.html>

### **QUESTION 323**

Which statement best describes the ability of a wireless client to access and transmit a data frame to an AP?

- A. The client listens to the media until polled by the AP using PCF to send its data.
- B. The client listens to the media until a data frame is finished, at which time it transmits, unless a collision of data frames has occurred.
- C. The client uses random countdown timers to start the transmission of a data frame.
- D. The client listens to the media and countdown timers to start the transmission of a data frame.

**Correct Answer:** D

**Section:** (none)

**Explanation**

**Explanation/Reference:**

Explanation:

<http://www.ciscopress.com/articles/article.asp?p=1271797&seqNum=2>

**QUESTION 324**

Which statement about ZigBee technology is true?

- A. It has low power consumption.
- B. It is designed only for point-to-point communications.
- C. It ranges up to 250 meters.
- D. It supports data rates up to 1 and 2 Mb/s.

**Correct Answer:** A

**Section:** (none)

**Explanation**

**Explanation/Reference:**

Explanation:

ZigBee is based on the IEEE 802.15.4 protocol for WPAN, and aims at developing hardware and applications with a low data rate but also low power consumption and low complexity --for example, to control sensors. ZigBee-based products can access up to 16 separate 5 MHz channels in the 2.4 GHz band and are not compatible with 802.11 devices. The maximum power of ZigBee is 60 mW. Devices use low.

**QUESTION 325**

Which four options are the characteristics of the original 802.11 protocol? (Choose four.)

- A. Defined DSSS and FHSS as possible methods for modulation
- B. Designed to operate in the 5 GHz ISM frequency spectrum
- C. The most common deployment is three non-overlapping channels that are 20 MHz wide
- D. The protocol sets the maximum throughput at 1 Mb/s or 2 Mb/s
- E. Defined FHSS and OFDM as possible methods for modulation
- F. The most common deployment is three non-overlapping channels that are 22 MHz wide
- G. Designed to operate in the 2.4 GHz ISM frequency spectrum
- H. The protocol sets the maximum throughput at 1 Mb/s

**Correct Answer:** ACDG

**Section:** (none)

**Explanation**

**Explanation/Reference:**

Explanation:

FHSS is still described in the original 802.11 protocol, but another technique was preferred and adopted by all 802.11 networks: Direct Sequence Spread Spectrum. Instead of small channels and a jumping sequence, the information is sent over a wider channel. This channel is 22 MHz wide (if the center frequency is 2.412, this channel spans from 2.401 GHz to 2.423 GHz) and does not move (no hopping, which is why the sequence is said to be direct instead of hopping). Then, over this 22 MHz channel, several bits of information are sent in parallel. If a source of interference affects part of the channel, it will prevent only the bits sent in that frequency from reaching the receiver.

**QUESTION 326**

Which two attacks does Management Frame Protection help to mitigate? (Choose two.)

- A. Eavesdropping
- B. Denial of Service
- C. War Driving
- D. Man-in-the-Middle

**Correct Answer:** BD

**Section:** (none)

**Explanation**

**Explanation/Reference:**

Explanation:

**QUESTION 327**

Refer to the exhibit.



Which tab is used to set up web authentication for guest users?

- A. Security > Layer 3
- B. Security > Layer 2

- C. Security > AAA Servers
- D. Advanced
- E. General

**Correct Answer:** A

**Section:** (none)

**Explanation**

**Explanation/Reference:**

Explanation:

#### **QUESTION 328**

Which statement about customization of a web page that is used on a WLC to authorize guest users is true?

- A. The administrator can use either a modified internal login page or the customized web page.
- B. The administrator can use only the internal login page, and only the organization logo can be changed.
- C. The administrator can use only the internal login page with a customized logo, headline, and message.
- D. The administrator can use only the customized web page that is uploaded to a WLC.

**Correct Answer:** A

**Section:** (none)

**Explanation**

**Explanation/Reference:**

Explanation:

<http://www.cisco.com/c/en/us/td/docs/wireless/controller/7-0/configuration/guide/c70/c70users.html#wp1049273>

#### **QUESTION 329**

What is Cisco WCS Navigator?

- A. a single point of management for multiple Cisco WCS servers
- B. a server for storing and reviewing Cisco Spectrum Expert station data
- C. a server for storing the location data of wireless clients
- D. a GUI for displaying the data of Cisco CleanAir APs, aligned with an uploaded map
- E. a single point of management for multiple Cisco WLC systems

**Correct Answer:** A

**Section:** (none)

## **Explanation**

### **Explanation/Reference:**

Explanation:

The Cisco WCS Navigator centralizes the operational control and management of multiple Cisco WCS management platforms. This easy-to-use platform delivers the following cross-system capabilities:

<http://www.cisco.com/c/en/us/products/wireless/wireless-control-system-navigator/index.html>

### **QUESTION 330**

What is the maximum number of access points supported on Cisco WCS with an enterprise license?

- A. 5,000
- B. 10,000
- C. 50,000
- D. 100,000

**Correct Answer:** C

**Section:** (none)

## **Explanation**

### **Explanation/Reference:**

Explanation:

[http://www.cisco.com/c/en/us/products/collateral/wireless/wireless-control-system/product\\_data\\_sheet0900aecd804b4646.html](http://www.cisco.com/c/en/us/products/collateral/wireless/wireless-control-system/product_data_sheet0900aecd804b4646.html)

### **QUESTION 331**

Which user group has the ability to configure all features of the Cisco WCS except the user accounts and passwords?

- A. Admin
- B. SuperUser
- C. Root
- D. Supervisor

**Correct Answer:** A

**Section:** (none)

## **Explanation**

### **Explanation/Reference:**

Explanation:

System Monitoring --Allows users to monitor WCS operations.

ConfigManagers --Allows users to monitor and configure WCS operations.

Admin --Allows users to monitor and configure WCS operations and perform all system administration tasks except administering WCS user accounts and passwords.

SuperUsers --Allows users to monitor and configure WCS operations and perform all system administration tasks including administering WCS user accounts and passwords. Superusers tasks can be changed. North bound API --A user group used only with WCS Navigator.

Users Assistant --Allows only local net user administration. User assistants cannot configure or monitor controllers. They must access the Configure > Controller path to configure these local net features.

### **QUESTION 332**

What must be done for Cisco WLC and Cisco WCS to communicate?

- A. The IP address and subnet mask of the Cisco WLC must be configured in the Cisco WCS.
- B. The IP address and subnet mask of the Cisco WCS must be configured in the Cisco WLC.
- C. The identity certificate of the Cisco WLC must be added to the Cisco WCS.
- D. The Cisco WLC and Cisco WCS must exchange identity certificates.

**Correct Answer:** A

**Section:** (none)

**Explanation**

**Explanation/Reference:**

Explanation:

In Cisco WCS, you need to add the ip address and subnet of the WLC. Autodiscovery is a feature that is used to search for a single controller by IP Address however this feature is restricted to Cisco WLAN Solution mobility group subnets defined by the operator.

### **QUESTION 333**

Which protocol is used for Cisco WCS to communicate with Cisco WLC?

- A. SNMP
- B. CAPWAP
- C. HTTPS
- D. SSH

**Correct Answer:** A

**Section:** (none)

**Explanation**

**Explanation/Reference:**

Explanation:

WCS simplifies controller configuration and monitoring and reduces data entry errors. WCS uses the industry-standard SNMP protocol to communicate with the controllers. WCS also includes the Floor Plan editor which allows you to do the following:

Vectorize bitmapped campus, floor plan, and outdoor area maps.

Add and change wall types.

Import the vector wall format maps into the database.

#### **QUESTION 334**

The administrator has noticed that the configuration on a controller is different than in Cisco WCS. How can the administrator fix this issue?

- A. The configuration can be copied from the controller to the Cisco WCS or from the WCS to the controller.
- B. The configuration can be copied only from the Cisco WCS to the controller.
- C. The configuration can be copied only from the controller to the Cisco WCS.
- D. The controller must be removed from the Cisco WCS and then added again.

**Correct Answer:** A

**Section:** (none)

**Explanation**

**Explanation/Reference:**

Explanation:

The Copy and Replace AP feature is useful if you need to remove an access point from the network and replace it with a new access point. All of the access point information, such as AP mode, name, and map location needs to be copied from the old access point to the new access point.

<http://www.cisco.com/c/en/us/td/docs/wireless/wcs/7-0MR1/configuration/guide/WCS70MR1/ctrlcfg.html#wp1097509>

#### **QUESTION 335**

The Cisco WCS administrator wants to create an accurate RF heat map based on RF prediction data. Which statement about map creation in Cisco WCS is true?

- A. The administrator must manually add walls, doors, and windows to the map.
- B. Cisco WCS automatically detects walls, doors, and windows and adds them to the map, but only when Cisco WCS Navigator is available.
- C. Cisco WCS automatically detects walls, doors, and windows and adds them to the map, but only when a Cisco 3300 Series MSE is available.
- D. All walls, doors, and windows must be included in the file that is uploaded as a background map.

**Correct Answer:** A

**Section:** (none)

**Explanation**

**Explanation/Reference:**

Explanation:

General Notes and Guidelines for Using the Map Editor Consider the following when modifying a building or floor map using the map editor.

Cisco recommends that you use the map editor to draw walls and other obstacles rather than importing an .FPE file from the legacy floor plan editor.

If necessary, you can still import .FPE files. To do so, navigate to the desired floor area, choose box, and browse to and choose the .FPE file.

You can add any number of walls to a floor plan with the map editor; however, the processing power and memory of a client workstation may limit the refresh and rendering aspects of WCS.

Cisco recommends a practical limit of 400 walls per floor for machines with 1-GB RAM or less.

All walls are used by WCS when generating RF coverage heatmaps.

However, the MSEs use no more than 50 heavy walls in its calculations, and the MSE does not use light walls in its calculations because those attenuations are already accounted for during the calibration process.

If you have a high resolution image (near 12 megapixels), you may need to scale down the image resolution with an image editing software prior to using map editor.

[http://www.cisco.com/c/en/us/td/docs/wireless/wcs/7-0/configuration/guide/WCS70cg/7\\_0maps.html](http://www.cisco.com/c/en/us/td/docs/wireless/wcs/7-0/configuration/guide/WCS70cg/7_0maps.html)

#### QUESTION 336

Refer to the exhibit.



What is the meaning of the inverted orange triangle (marked "0") in the Alarm Summary tab of Cisco WCS?

- A. number of major alarms
- B. number of minor alarms
- C. number of critical alarms
- D. number of system alarms

**Correct Answer: A**



**Section: (none)**

**Explanation**

**Explanation/Reference:**

Explanation:

[http://www.cisco.com/c/en/us/td/docs/wireless/wcs/6-0/configuration/guide/WCS60cg/6\\_0event.html](http://www.cisco.com/c/en/us/td/docs/wireless/wcs/6-0/configuration/guide/WCS60cg/6_0event.html)

**QUESTION 337**

A Cisco WCS administrator has marked an alarm as acknowledged. For how many days does Cisco WCS prevent the alarm from reappearing, even if the source of the alarm reoccurs?

- A. 1
- B. 7
- C. 10
- D. 30

**Correct Answer: B**

**Section: (none)**

**Explanation**

**Explanation/Reference:**

Explanation:

WCS automatically deletes cleared alerts that are more than seven days old; therefore, your results can show activity only for the last seven days. Until an existing alarm is deleted, a new alarm cannot be generated for any managed entity for which WCS has already generated an alarm.

[http://www.cisco.com/c/en/us/td/docs/wireless/wcs/7-0/configuration/guide/WCS70cg/7\\_0event.pdf](http://www.cisco.com/c/en/us/td/docs/wireless/wcs/7-0/configuration/guide/WCS70cg/7_0event.pdf)

**QUESTION 338**

The administrator needs to create a report that shows all controllers, APs, and Cisco 3300 Series MSEs in the WLAN, including hardware and software information. Which report includes this information?

- A. Device > Inventory
- B. Mesh > Nodes
- C. Network Summary > Executive Summary
- D. Network Summary > 802.11 Summary

**Correct Answer: A**

**Section: (none)**

**Explanation**

**Explanation/Reference:**

Explanation:

In the left sidebar menu, all of the inventory report options are listed. These reports are generated based on the data already stored in the WCS database. Because inventory reports are not on-demand reports, some configuration changes may have occurred since the storage and may not duplicate the attributes of the controller that are reflected in the stored data. The choices are as follows:

Access Point Inventory Report --Provides data on deployed access points. The data that is returned includes but is not limited to the following: the access points' MAC address, model, location, and radio status.  
location appliances.

Controller Inventory Report --Provides data on deployed controllers. The data that is returned includes but is not limited to the following: the model, IP address, and serial number of the controller, what software version it is running, and where it is located.

Location Server Inventory Report --Provides data on deployed location appliances. The data that is returned includes but is not limited to the following: the IP address and version of the location appliance, which port is being used, and the time the appliance starts up.  
<http://www.cisco.com/c/en/us/td/docs/wireless/wcs/4-1/configuration/guide/wcscfg41/wcsreps.html#wp1080212>

**QUESTION 339**

Which Cisco WLC command family can help to troubleshoot communication between an AP and the WLC?

- A. (Cisco Controller) >debug capwap
- B. (Cisco Controller) >debug ap
- C. (Cisco Controller) >debug cac
- D. (Cisco Controller) >debug dot11

**Correct Answer:** A

**Section:** (none)

**Explanation**

**Explanation/Reference:**

Explanation:

Example debugs available for this shown below:

WLC side debug commands:

(Cisco Controller) >debug capwap?

<https://mrncciew.files.wordpress.com/2013/03/brkewn-3011-troubleshooting-wireless-lans.pdf>

**QUESTION 340**

Refer to the exhibit.



The image shows the Cisco WLC configuration page for SysLog Options. At the top, there is an 'Alarm Summary' bar with 2 critical alarms (red triangles), 0 major alarms (orange triangles), and 167 minor alarms (yellow circles). The main navigation bar includes links for Monitor, Reports, Configure, Administration, Tools, and Help. On the left, a sidebar lists 'General Logging Options', 'SNMP Logging Options', and 'SysLog Options'. The main content area is titled 'SysLog Options' and shows the breadcrumb 'Administration > Logging Options > SysLog'. Under 'SysLog Settings', the 'Enable SysLog' checkbox is checked and labeled 'Enable'. The 'SysLog Host' field contains the IP address '10.106.184.5'. The 'SysLog Facility' dropdown menu is set to 'LOCAL7'. A 'Save' button is located at the bottom left of the configuration area.

Which syslog facility option is shown?

- A. an information field, which is added to every message that comes from the WLC
- B. a security feature, which is set on the syslog server
- C. the type of syslog server
- D. the Cisco WLC identifier for this syslog server

**Correct Answer:** A

**Section:** (none)

**Explanation**

**Explanation/Reference:**

Explanation:

A facility level is used to specify what type of program is logging a message. This lets the configuration file specify that messages from different facilities will be handled differently. Local7 maps to Facility level 23, which is local so the WLC will add this information to syslog messages when sending to the syslog server.

#### QUESTION 341

Which action secures the SNMPv2C protocol in a Cisco WLC?

- A. configure new communities and disable default communities
- B. use digital certificates to authenticate and encrypt transmissions

- C. enable password or transfer encryption
- D. set a username and difficult-to-guess password

**Correct Answer:** A

**Section:** (none)

**Explanation**

**Explanation/Reference:**

Explanation:

See the SNMP configuration for Cisco WLC page shown in reference link below:

[http://www.cisco.com/c/en/us/td/docs/wireless/controller/7-4/configuration/guides/consolidated/b\\_cg74\\_CONSOLIDATED/b\\_cg74\\_CONSOLIDATED\\_chapter\\_0111.html](http://www.cisco.com/c/en/us/td/docs/wireless/controller/7-4/configuration/guides/consolidated/b_cg74_CONSOLIDATED/b_cg74_CONSOLIDATED_chapter_0111.html)

#### **QUESTION 342**

What is the purpose of the Log Analysis tab on the Client Troubleshooting page in Cisco WCS?

- A. After you click start, the tab shows debug information for the client that is trying to re-associate.
- B. The tab searches the logs for similar problems of other clients and generates a report.
- C. The tab generates a report from historical logs for the client that is having problems.
- D. The tab shows logs from the past hour for the client that is having problems.

**Correct Answer:** A

**Section:** (none)

**Explanation**

**Explanation/Reference:**

Explanation:

#### **QUESTION 343**

Refer to the exhibit.

Troubleshooting Client 'd4:17:6a:d4:75:17'

Summary Log Analysis Event History ACS View Server Context Aware History

802.11 Association IP Address Assignment Web Authentication Successful Association

**Problem**

Client could not complete the dhcp interaction.

**Suggested Action**

Check whether the DHCP server is reachable.  
Check whether dhcp server is configured to serve the WLAN.  
Check whether dhcp scope is exhausted.  
Check whether multiple dhcp servers are configured with overlapping scopes.  
Check local dhcp server is present if dhcp bridging mode enabled (move it to second) client is configured to get address from dhcp server.  
Check if client has static ip configured and ensure client generates ip traffic \* if ipsec wlan, ensure that client is configured to do dhcp exchanges in open (safenet/netscreen default config does not include it).

Which tool is shown?

- A. Cisco WCS client troubleshooting tool
- B. Cisco WLC client troubleshooting tool
- C. WLAN Client Debug Analyzer
- D. Cisco WLAN Connection Advisor

**Correct Answer: A**

**Section: (none)**

## **Explanation**

### **Explanation/Reference:**

Explanation:

Please go through the link to understand more about the Cisco WCS Client Troubleshooting tool:

<http://www.cisco.com/web/techdoc/wcs/cleanair/client-troubleshooting/CleanAir-ClientTroubleshooting.html>

### **QUESTION 344**

How can you protect the configuration file from eavesdropping, when uploading from a Cisco WLC?

- A. Use the Configuration File Encryption option.
- B. Choose an SCP as the transfer method.
- C. Connect to the Cisco WLC by using HTTPS.
- D. Connect to the Cisco WLC by using SSH.

**Correct Answer:** A

**Section:** (none)

## **Explanation**

### **Explanation/Reference:**

Explanation:

Uploading the Configuration Files (GUI)

Step 1

Choose Commands > Upload File to open the Upload File from Controller page.

Step 2

From the File Type drop-down list, choose Configuration.

Step 3

Encrypt the configuration file by selecting the Configuration File Encryption check box and entering the encryption key in the Encryption Key text box.

Step 4

From the Transfer Mode drop-down list, choose from the following options:

Step 5

In the IP Address text box, enter the IP address of the server.

Step 6

In the File Path text box, enter the directory path of the configuration file.

Step 7

In the File Name text box, enter the name of the configuration file.

Step 8

If you are using an FTP server, follow these steps:

Step 9

Click Upload to upload the configuration file to the server. A message appears indicating the status of the upload. If the upload fails, repeat this procedure and try

again.

[http://www.cisco.com/c/en/us/td/docs/wireless/controller/7-3/configuration/guide/b\\_cg73/b\\_wlc-cg\\_chapter\\_01010.html](http://www.cisco.com/c/en/us/td/docs/wireless/controller/7-3/configuration/guide/b_cg73/b_wlc-cg_chapter_01010.html)

#### **QUESTION 345**

What tab contains access point configuration in the WCS?

- A. Controller > Access Points
- B. Configure > Access Points
- C. General > Configure > Access Points
- D. System > Configure > Access Points

**Correct Answer:** B

**Section:** (none)

**Explanation**

**Explanation/Reference:**

Explanation:

#### **QUESTION 346**

What path displays the current maps within the WCS version 7 GUI?

- A. Monitor > Maps
- B. Reports > Maps
- C. Services > Maps
- D. Administration > Maps
- E. Configure > Maps
- F. Tools > Maps

**Correct Answer:** A

**Section:** (none)

**Explanation**

**Explanation/Reference:**

Explanation:

The physical location of the client (such as building, floor, and so on). Clicking the map location displays information in the Monitor > Maps page.

[http://www.cisco.com/c/en/us/td/docs/wireless/wcs/7-0/configuration/guide/WCS70cg/7\\_0clientmgmt.html](http://www.cisco.com/c/en/us/td/docs/wireless/wcs/7-0/configuration/guide/WCS70cg/7_0clientmgmt.html)

#### **QUESTION 347**

A network engineer in the GUI of WCS version 7 wants to add an access point to a map. Where can this command be found within the drop-down menu?

- A. Monitor > Maps
- B. Reports > Maps
- C. Monitor > Network Summary
- D. Configure > Maps

**Correct Answer:** A

**Section:** (none)

**Explanation**

**Explanation/Reference:**

Explanation:

The physical location of the client (such as building, floor, and so on). Clicking the map location displays information in the Monitor > Maps page.

[http://www.cisco.com/c/en/us/td/docs/wireless/wcs/7-0/configuration/guide/WCS70cg/7\\_0clientmgmt.html](http://www.cisco.com/c/en/us/td/docs/wireless/wcs/7-0/configuration/guide/WCS70cg/7_0clientmgmt.html)

#### **QUESTION 348**

A network engineer in the GUI of WCS version 7 wants to add an autonomous access point. Where can this command be found in the drop-down menu?

- A. Configure > Access Point > Add Autonomous APs
- B. Manage > Access Points > Add Autonomous APs
- C. Administration > Access Point > Add Autonomous APs
- D. Location > Access Point > Add Autonomous APs

**Correct Answer:** A

**Section:** (none)

**Explanation**

**Explanation/Reference:**

Explanation:

From WCS, the following methods are available for adding autonomous access points:

Add autonomous access points by Device information (IP addresses and credentials).

Add autonomous access points by CSV file [http://www.cisco.com/c/en/us/td/docs/wireless/wcs/7-0/configuration/guide/WCS70cg/7\\_0apcfg.html#wp1054452](http://www.cisco.com/c/en/us/td/docs/wireless/wcs/7-0/configuration/guide/WCS70cg/7_0apcfg.html#wp1054452)

#### **QUESTION 349**

What technology consists of small, low-power digital radios?

- A. LTE
- B. WiFi
- C. ZigBee



D. Bluetooth

**Correct Answer:** C

**Section:** (none)

**Explanation**

**Explanation/Reference:**

Explanation:

ZigBee is based on the IEEE 802.15.4 protocol for WPAN, and aims at developing hardware and applications with a low data rate but also low power consumption and low complexity --for example, to control sensors. ZigBee-based products can access up to 16 separate 5 MHz channels in the 2.4 GHz band and are not compatible with 802.11 devices. The maximum power of ZigBee is 60 mW. Devices use low consumption most of the time but can spike when needed: The impact on wireless networks can then be significant.

**QUESTION 350**

What protocol is used to determine the best pathway back to a root access point?

A. CCKM

B. WNMP

C. AWPP

D. LWAP

**Correct Answer:** C

**Section:** (none)

**Explanation**

**Explanation/Reference:**

Explanation:

AWPP enables a remote access point to dynamically find the best path back to a RAP for each MAP that is part of the RAP's bridge group (BGN). Unlike traditional routing protocols, AWPP takes RF details into account. To optimize the route, a MAP actively solicits neighbor MAP. During the solicitation, the MAP learns all of the available neighbors back to a RAP (Root Access Point), determines which neighbor offers the best path, and then synchronizes with that neighbor. The path decisions of AWPP are based on link quality and the number of hops.

[http://www.cisco.com/c/en/us/td/docs/wireless/technology/mesh/7-0/design/guide/MeshAP\\_70.html#wp1351984](http://www.cisco.com/c/en/us/td/docs/wireless/technology/mesh/7-0/design/guide/MeshAP_70.html#wp1351984)

**QUESTION 351**

How does an LWAP receive a configuration file?

A. It is configured manually.

B. It receives a configuration from the controller.

C. It automatically ships with a configuration.

D. It receives a configuration from a TFTP server.

**Correct Answer:** B

**Section:** (none)

**Explanation**

**Explanation/Reference:**

Explanation:

You can use an upgrade conversion tool to convert autonomous Cisco Aironet 1100, 1130AG, 1200, 1240AG, and 1300 Series Access Points to lightweight mode. When you upgrade one of these access points to lightweight mode, the access point communicates with a controller and receives a configuration and software image from the controller.

<http://www.cisco.com/c/en/us/td/docs/wireless/controller/5-2/configuration/guide/Controller52CG/c52lwap.html>

#### **QUESTION 352**

Which two of the following authentication methods used for WiFi security require the use of certificates? (Choose two.)

- A. PEAP
- B. EAP-FAST
- C. WPA2
- D. WPA1
- E. EAP-TLS
- F. EAP-MD5

**Correct Answer:** AE

**Section:** (none)

**Explanation**

**Explanation/Reference:**

Explanation:

When you use EAP with a strong EAP type, such as TLS with smart cards or TLS with certificates, both the client and the server use certificates to verify their identities to each other. Certificates must meet specific requirements both on the server and on the client for successful authentication.

<https://support.microsoft.com/en-us/kb/814394>

#### **QUESTION 353**

You are designing a wireless network in a medical facility. Which three areas are bad locations in which to install a wireless access point? (Choose three.)

- A. in front of the elevators doors
- B. in the hallways
- C. next to the electrical room

- D. inside offices
- E. near medical imaging devices
- F. in the lobby

**Correct Answer:** ACE

**Section:** (none)

**Explanation**

**Explanation/Reference:**

Explanation:

You should not install access points in areas where interference from outside devices can occur. A great deal of electrical interference can occur near the electrical room and near medical imaging devices. Also, because elevators often have metal doors and the shafts are often concrete or contain other materials that degrade Wi-Fi coverage, it is best to avoid them.

#### **QUESTION 354**

What are the three primary functions of the Cisco Unified Wireless LWAPP architecture? (Choose three.)

- A. control and management of the CAPWAP
- B. tunneling of VPN clients over the WAN
- C. tunneling of WLAN client traffic to the WLC
- D. collection of 802.1Q trunks
- E. collection of 802.11 data for management
- F. control and management of VTP

**Correct Answer:** ACE

**Section:** (none)

**Explanation**

**Explanation/Reference:**

Explanation:

Figure below illustrates one of the primary features of the architecture -- how Lightweight Access Point Protocol (LWAPP) access points (LAPs) use the LWAPP protocol to communicate with and tunnel traffic to a WLC.

[http://www.cisco.com/c/en/us/td/docs/solutions/Enterprise/Mobility/secwlandg20/sw2dg/ch4\\_2\\_SPMb.html](http://www.cisco.com/c/en/us/td/docs/solutions/Enterprise/Mobility/secwlandg20/sw2dg/ch4_2_SPMb.html)

#### **QUESTION 355**

During Layer 2 intercontroller roaming, which two items change? (Choose two.)

- A. SSID
- B. VLAN

- C. IP address
- D. AP
- E. controller

**Correct Answer:** DE

**Section:** (none)

**Explanation**

**Explanation/Reference:**

Explanation:

When the client associates to an access point joined to a new controller, the new controller exchanges mobility messages with the original controller, and the client database entry is moved to the new controller.

New security context and associations are established if necessary, and the client database entry is updated for the new access point. This process remains transparent to the user.

<http://www.cisco.com/c/en/us/td/docs/wireless/controller/7-0/configuration/guide/c70/c70mobil.html>

#### **QUESTION 356**

Which of the following are three functions of Cisco RRM? (Choose three.)

- A. TPC
- B. intercontroller roaming
- C. dynamic channel assignment
- D. intracontroller roaming
- E. coverage hole detection

**Correct Answer:** ACE

**Section:** (none)

**Explanation**

**Explanation/Reference:**

Explanation:

RRM can periodically reconfigure the 802.11 RF network for best efficiency.

To do this, RRM performs these functions:

Radio resource monitoring

Transmit power control

Dynamic channel assignment

Coverage hole detection and correction

[http://www.cisco.com/c/en/us/td/docs/wireless/controller/7-0MR1/configuration/guide/wlc\\_cg70MR1/cg\\_rrm.pdf](http://www.cisco.com/c/en/us/td/docs/wireless/controller/7-0MR1/configuration/guide/wlc_cg70MR1/cg_rrm.pdf)

**QUESTION 357**

You are setting up a laptop to connect to the wireless network of your organization. The protocols that are used for the corporate network are WPA2 Enterprise, PEAP, and AES. Which three parameters do you need to configure in the Windows 7 wireless network properties for this connection? (Choose three.)

- A. VLAN
- B. encryption type
- C. authentication method
- D. VRF
- E. security type
- F. IP address

**Correct Answer:** BCE

**Section:** (none)

**Explanation**

**Explanation/Reference:**

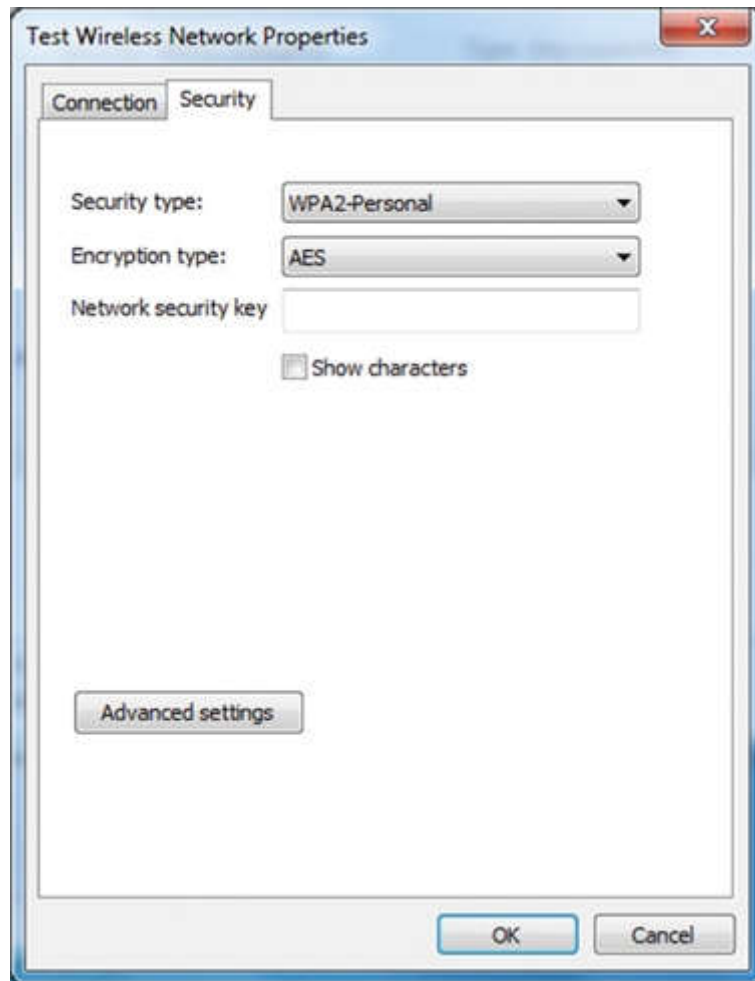
Explanation:

On the Security tab, you can specify the following security types:

Based on the selected security type, you can configure either a network security key or specify and configure a network authentication method. If you specify WPA-Enterprise, WPA2-Enterprise, or 802.1x as your security type, you must configure the following (as shown in the previous figure):

- Choose a network authentication methodSelect an Extensible Authentication Protocol (EAP) method and click Settings to configure the EAP type as needed.
- Remember my credentials for this connection each time I'm logged on: Specifies that when the user logs off, the user credential data is not removed from the registry. If you clear the checkbox, the next time the user logs on, he will be prompted for credentials (such as user name and password).

If you specify the use of WPA-Personal or WPA2-Personal as your security type or No authentication (Open) or Shared as your security type with WEP as your encryption type, you must configure a network security key, as shown in Figure:



<https://technet.microsoft.com/en-us/magazine/ff847520.aspx>

**QUESTION 358**

What are three characteristics of the 802.11g standard? (Choose three.)

- A. speed of as much as 11 Mb/s
- B. speed of as much as 54 Mb/s

- C. backward-compatibility with 802.11a
- D. backward-compatibility with 802.11b
- E. OFDM as an additional modulation technique
- F. OFDM and CCK as additional modulation techniques

**Correct Answer:** BDE

**Section:** (none)

**Explanation**

**Explanation/Reference:**

Explanation:

802.11g is the third modulation standard for wireless LANs. It works in the 2.4 GHz band (like 802.11b) but operates at a maximum raw data rate of 54 Mbit/s. Using the CSMA/CA transmission scheme, 31.4 Mbit/s is the maximum net throughput possible for packets of 1500 bytes in size and a 54 Mbit/s wireless rate (identical to 802.11a core, except for some additional legacy overhead for backward compatibility). In practice, access points may not have an ideal implementation and may therefore not be able to achieve even 31.4 Mbit/s throughput with 1500 byte packets. 1500 bytes is the usual limit for packets on the Internet and therefore a relevant size to benchmark against. Smaller packets give even lower theoretical throughput, down to 3 Mbit/s using 54 Mbit/s rate and 64 byte packets. Also, the available throughput is shared between all stations transmitting, including the AP so both downstream and upstream traffic is limited to a shared total of 31.4 Mbit/s using 1500 byte packets and 54 Mbit/s rate. 802.11g hardware is fully backwards compatible with 802.11b hardware. Details of making b and g work well together occupied much of the lingering technical process. In an 802.11g network, however, the presence of a legacy 802.11b participant will significantly reduce the speed of the overall 802.11g network. Some 802.11g routers employ a back-compatible mode for 802.11b clients called 54g LRS (Limited Rate Support). [2]  
The modulation scheme used in 802.11g is orthogonal frequency-division multiplexing (OFDM) copied from 802.11a with data rates of 6, 9, 12, 18, 24, 36, 48, and 54 Mbit/s, and reverts to CCK (like the 802.11b standard) for 5.5 and 11 Mbit/s and DBPSK/DQPSK+DSSS for 1 and 2 Mbit/s. Even though 802.11g operates in the same frequency band as 802.11b, it can achieve higher data rates because of its heritage to 802.11a.

[http://en.wikipedia.org/wiki/IEEE\\_802.11g-2003](http://en.wikipedia.org/wiki/IEEE_802.11g-2003)

#### **QUESTION 359**

Which two types of encryption does Windows support for WPA2 security for wireless connections? (Choose two.)

- A. AES
- B. DES
- C. PGP
- D. TKIP
- E. WEP

**Correct Answer:** AD

**Section:** (none)

**Explanation**

**Explanation/Reference:**

Explanation:

TKIP and AES are two different types of encryption that can be used by a Wi-Fi network. TKIP stands for "Temporal Key Integrity Protocol." It was a stopgap encryption protocol introduced with WPA to replace the very-insecure WEP encryption at the time. TKIP is actually quite similar to WEP encryption. TKIP is no longer considered secure, and is now deprecated. In other words, you shouldn't be using it.

AES stands for "Advanced Encryption Standard." This was a more secure encryption protocol introduced with WPA2, which replaced the interim WPA standard. AES isn't some creaky standard developed specifically for Wi-Fi networks; it's a serious worldwide encryption standard that's even been adopted by the US government. For example, when you encrypt a hard drive with TrueCrypt, it can use AES encryption for that. AES is generally considered quite secure, and the main weaknesses would be brute-force attacks (prevented by using a strong passphrase) and security weaknesses in other aspects of WPA2.

<http://www.howtogeek.com/204697/wi-fi-security-should-you-use-wpa2-aes-wpa2-tkip-or-both/>

**QUESTION 360**

Which two wireless technologies can interfere with 802.11 networks? (Choose two.)

- A. DECT
- B. ZigBee
- C. WiMax
- D. GSM

**Correct Answer:** AB

**Section:** (none)

**Explanation**

**Explanation/Reference:**

Explanation:

Here is how Cisco RRM works from a high level:

What are the algorithms that the RF Group Leader will be busy with?

<http://blog.ine.com/2010/10/08/cisco-radio-resource-management-rrm/>

**QUESTION 361**

Which two algorithms are available in RRM? (Choose two.)

- A. coverage-hole detection
- B. dynamic channel assignment
- C. RSSI normalizer
- D. transmitting channel expander
- E. rogue detection

**Correct Answer:** AB



**Section: (none)**

**Explanation**

**Explanation/Reference:**

Explanation:

Most clients enable you to associate to a detected network (broadcasted SSID) or configure a specific profile. In all cases, you must configure the network name (SSID), the operating mode (ad-hoc or infrastructure), and some security settings (that will be different depending on whether the SSID uses Pre-Shared Key Security or Enterprise [EAP/802.1x] security).

**QUESTION 362**

Which two pieces of information are needed for the wireless client to connect to the wireless network? (Choose two.)

- A. SSID
- B. security settings
- C. channel number
- D. AP name

**Correct Answer: AB**

**Section: (none)**

**Explanation**

**Explanation/Reference:**

Explanation:

**QUESTION 363**

What are two wireless configuration utilities for Apple Mac computers? (Choose two.)

- A. AirPort
- B. AirPort Extreme
- C. AirManager
- D. AirManager Supreme
- E. AirAssistant Ultimate

**Correct Answer: AB**

**Section: (none)**

**Explanation**

**Explanation/Reference:**

Explanation:

AirPort (for 802.11b) and AirPort Extreme (for 802.11b/g/n or 802.11a/b/g/n) are WLAN configuration utilities from Apple. The utility allows the creation of network profiles, association to detected networks, and advanced configuration and troubleshooting. The wireless card can be disabled or enabled from the utility main window.

**QUESTION 364**

What are two modules of the CCX Lite program? (Choose two.)

- A. foundation
- B. voice
- C. RF power
- D. roaming

**Correct Answer:** AB

**Section:** (none)

**Explanation**

**Explanation/Reference:**

Explanation:

In summer 2011, Cisco separated the CCX features into four subfamilies to help vendors integrate only those features that are needed for their specific wireless clients (called application-specific devices, which are devices built for a specific function [for example, barcode scanners or VoWLAN phones] and therefore do not need all the CCX features that a data laptop would need). This is called the CCX Lite program.

**QUESTION 365**

What are two security threats to wireless networks? (Choose two.)

- A. ad-hoc networks
- B. client misassociation
- C. port redirection
- D. cross-site scripting

**Correct Answer:** AB

**Section:** (none)

**Explanation**

**Explanation/Reference:**

Explanation:

An ad hoc network is a collection of wireless clients that form a network amongst themselves without the use of an AP. As far as network administrators are concerned, ad hoc wireless networks are uncontrolled. If they do not use encryption, they may expose sensitive data to outside eavesdroppers. If a device is connected to a wired network and has bridging enabled, an ad-hoc network may also function like a rogue AP. Additionally, ad-hoc networks can expose client

devices to viruses and other security vulnerabilities. For these reasons, many administrators choose to prohibit ad-hoc networks. Valid Client Misassociation:

This feature does not detect attacks, but rather it monitors authorized (valid) wireless clients and their association within the network. Valid client misassociation is potentially dangerous to network security. The four types of misassociation that we monitor are:

[http://www.arubanetworks.com/techdocs/ArubaOS\\_61/ArubaOS\\_61\\_UG/New\\_WIP.php](http://www.arubanetworks.com/techdocs/ArubaOS_61/ArubaOS_61_UG/New_WIP.php)

**QUESTION 366**

Which two formats are supported for uploading background graphics to create a network map in Cisco WCS? (Choose two.)

- A. PNG
- B. JPEG
- C. DWG
- D. TIFF

**Correct Answer:** AB

**Section:** (none)

**Explanation**

**Explanation/Reference:**

Explanation:

**QUESTION 367**

Which two destinations can Cisco WCS administrators specify for a scheduled report? (Choose two.)

- A. a file on the Cisco WCS
- B. a specified email address
- C. a specified World Wide Web server
- D. a TFTP server

**Correct Answer:** AB

**Section:** (none)

**Explanation**

**Explanation/Reference:**

Explanation:

[http://www.cisco.com/c/en/us/td/docs/wireless/wcs/7-0/configuration/guide/WCS70cg/7\\_0reps.html](http://www.cisco.com/c/en/us/td/docs/wireless/wcs/7-0/configuration/guide/WCS70cg/7_0reps.html)

**QUESTION 368**

Which two formats are available for Cisco WCS reports? (Choose two.)

- A. PDF
- B. CSV
- C. HTML
- D. TXT

**Correct Answer:** AB

**Section:** (none)

**Explanation**

**Explanation/Reference:**

Explanation:

Reports are saved in either CSV or PDF format and are either saved to a file on WCS for later download or e-mailed to a specific e-mail address.

[http://www.cisco.com/c/en/us/td/docs/wireless/wcs/7-0/configuration/guide/WCS70cg/7\\_0reps.html](http://www.cisco.com/c/en/us/td/docs/wireless/wcs/7-0/configuration/guide/WCS70cg/7_0reps.html).

#### **QUESTION 369**

Which two protocols are available to download or upload files to or from Cisco WLC? (Choose two.)

- A. FTP
- B. TFTP
- C. SCP
- D. HTTP
- E. HTTPS

**Correct Answer:** AB

**Section:** (none)

**Explanation**

**Explanation/Reference:**

Explanation:

Uploading the Configuration Files (GUI)

Step 1

Choose Commands > Upload File to open the Upload File from Controller page.

Step 2

From the File Type drop-down list, choose Configuration.

Step 3

Encrypt the configuration file by selecting the Configuration File Encryption check box and entering the encryption key in the Encryption Key text box.

Step 4

From the Transfer Mode drop-down list, choose from the following options:

Step 5

In the IP Address text box, enter the IP address of the server.

Step 6

In the File Path text box, enter the directory path of the configuration file.

Step 7

In the File Name text box, enter the name of the configuration file.

Step 8

If you are using an FTP server, follow these steps:

Step 9

Click Upload to upload the configuration file to the server. A message appears indicating the status of the upload. If the upload fails, repeat this procedure and try again.

[http://www.cisco.com/c/en/us/td/docs/wireless/controller/7-3/configuration/guide/b\\_cg73/b\\_wlc-cg\\_chapter\\_01010.html](http://www.cisco.com/c/en/us/td/docs/wireless/controller/7-3/configuration/guide/b_cg73/b_wlc-cg_chapter_01010.html)

### QUESTION 370

Which statement describes spread spectrum technology in wireless communications?

- A. Signal is spread across optical pulses.
- B. Signal is spread across variations of amplitudes.
- C. Signal is spread across one frequency.
- D. Signal is spread across a whole band of frequencies.

**Correct Answer:** D

**Section:** (none)

**Explanation**

#### **Explanation/Reference:**

Explanation:

spread-spectrum techniques are methods by which a signal with a particular bandwidth is deliberately spread in the frequency domain, resulting in a signal with a wider bandwidth. Spread spectrum generally makes use of a sequential noise- like signal structure to spread the normally narrowband information signal over a relatively wideband (radio) band of frequencies.

[http://en.wikipedia.org/wiki/Spread\\_spectrum](http://en.wikipedia.org/wiki/Spread_spectrum)

### QUESTION 371

Which type of basic radiation pattern does a Yagi antenna have?

- A. circular
- B. semicircular
- C. straight line
- D. cone

**Correct Answer:** D

**Section:** (none)

## **Explanation**

### **Explanation/Reference:**

Explanation:

High gain directional antennas: A point to point high gain antenna is a directional antenna that has a focused radiation pattern. The radiation pattern is typically a cone 10 to 30 degrees wide. A yagi and a parabolic dish are examples of high gain directional antennas.

[http://www.hp.com/rnd/pdfs/antenna\\_tech\\_brief.pdf](http://www.hp.com/rnd/pdfs/antenna_tech_brief.pdf)

### **QUESTION 372**

Which wireless topology supports roaming?

- A. IBSS
- B. BSS
- C. ESS
- D. bridging

**Correct Answer:** C

**Section:** (none)

### **Explanation**

### **Explanation/Reference:**

Explanation:

### **QUESTION 373**

You are configuring an IP address on an autonomous access point. Which interface do you use to configure the IP address?

- A. BVI1
- B. FastEthernet 0
- C. Dot11Radio0
- D. VLAN 1

**Correct Answer:** A

**Section:** (none)

### **Explanation**

### **Explanation/Reference:**

Explanation:

Assigning the IP Address to the BVI

When you assign an IP address to the access point by using the CLI, you must assign the address to the bridge-group virtual interface (BVI). Beginning in a privileged EXEC mode, follow these steps to assign an IP address to the access point BVI using the access point console port. Command Purpose

Step 1

configure terminal

Enter global configuration mode.

Step 2

interface bvi1

Enters interface configuration mode for the BVI.

Step 3

ip address ip\_address net\_mask

Assigns an IP address and subnet mask address to the BVI.

[http://www.cisco.com/c/en/us/td/docs/wireless/access\\_point/1140/autonomous/getting\\_started/guide/ap1140aut\\_getstart.html](http://www.cisco.com/c/en/us/td/docs/wireless/access_point/1140/autonomous/getting_started/guide/ap1140aut_getstart.html)

#### QUESTION 374

You run minimum PEAP-GTC authentication in your wireless environment. Which version of Cisco Compatible Extensions supports PEAP-GTC?

- A. Cisco Compatible Extensions v1
- B. Cisco Compatible Extensions v2
- C. Cisco Compatible Extensions v3
- D. Cisco Compatible Extensions v4
- E. Cisco Compatible Extensions v5

**Correct Answer:** B

**Section:** (none)

**Explanation**

**Explanation/Reference:**

Explanation:

PEAP/GTC is supported on Cisco Compatible Version 2 clients and above.

[http://www.cisco.com/c/en/us/products/collateral/wireless/aironet-1300-series/prod\\_gas09186a00802030dc.html](http://www.cisco.com/c/en/us/products/collateral/wireless/aironet-1300-series/prod_gas09186a00802030dc.html)

#### QUESTION 375

Which device divides a signal between two antennas?

- A. splitter
- B. lightening arrestor
- C. attenuator
- D. amplifier

**Correct Answer:** A

**Section:** (none)

**Explanation**

**Explanation/Reference:**

Explanation:

A splitter causes insertion loss and divides available power between two antennas.

**QUESTION 376**

What does RF determine?

- A. cycle pattern size
- B. how often a wave occurs
- C. signal size
- D. quantity of energy injected in a signal

**Correct Answer:** B

**Section:** (none)

**Explanation**

**Explanation/Reference:**

Explanation:

RF communication works by creating electromagnetic waves at a source and being able to pick up those electromagnetic waves at a particular destination. These electromagnetic waves travel through the air at near the speed of light. The wavelength of an electromagnetic signal is inversely proportional to the frequency; the higher the frequency, the shorter the wavelength.

<http://www.digi.com/technology/rf-articles/rf-basic>

**QUESTION 377**

Which module does the Cisco AnyConnect Secure Mobility client integrate into the AnyConnect client package for access to both wired and wireless networks?

- A. Network Access Manager
- B. Telemetry
- C. Web Security
- D. DART

**Correct Answer:** A

**Section:** (none)

**Explanation**

**Explanation/Reference:**

Explanation:

The main components used in IUWNE are the Cisco AnyConnect Mobility Client itself, associated with the Network Access Module (NAM) used to manage existing profiles and provide the wireless connectivity.



**QUESTION 378**

Access points must discover a wireless LAN controller before they can become an active part of the network. In which order does an access point try to discover a controller?

- A. Layer 3 CAPWAP or LWAPP broadcast discovery  
DHCP option 43  
Locally stored controller IP address discovery  
DNS controller name resolution
- B. Layer 3 CAPWAP or LWAPP broadcast discovery  
Locally stored controller IP address discovery  
DNS controller name resolution  
DHCP option 43
- C. Layer 3 CAPWAP or LWAPP broadcast discovery  
Locally stored controller IP address discovery  
DHCP option 43  
DNS controller name resolution
- D. DNS controller name resolution  
DHCP option 43  
Layer 3 CAPWAP or LWAPP broadcast discovery  
Locally stored controller IP address discovery

**Correct Answer:** C

**Section:** (none)

**Explanation**

**Explanation/Reference:**

Explanation:

**QUESTION 379**

You are configuring SNMPv1/v2c on a WLC. What should you do for improved security?

- A. Remove the default SNMPv1 community.
- B. Remove the default SNMPv1 and SNMPv2 communities.
- C. Remove the default SNMPv2 community.
- D. Remove the default SNMPv3 users.

**Correct Answer:** B

**Section:** (none)

**Explanation**

**Explanation/Reference:**

Explanation:

The controller has commonly known default values of "public" and "private" for the read-only and read-write SNMP community strings. Using these standard values presents a security risk. If you use the default community names, and since these are known, the community names could be used to communicate to the controller using SNMP. Therefore, we strongly advise that you change these values.

Step 1

Choose Management and then Communities under SNMP. The SNMP v1 / v2c Community page appears.

Step 2

If "public" or "private" appears in the Community Name column, hover your cursor over the blue drop-down arrow for the desired community and choose Remove to delete this community.

Step 3

Click New to create a new community. The SNMP v1 / v2c Community > New page appears.

Step 4

In the Community Name text box, enter a unique name containing up to 16 alphanumeric characters. Do not enter "public" or "private."

Step 5

In the next two text boxes, enter the IPv4/IPv6 address and IP Mask/Prefix Length from which this device accepts SNMP packets with the associated community and the IP mask.

Step 6

Choose Read Only or Read/Write from the Access Mode drop-down list to specify the access level for this community.

Step 7

Choose Enable or Disable from the Status drop-down list to specify the status of this community.

Step 8

Click Apply to commit your changes.

Step 9

Click Save Configuration to save your settings.

Step 10

Repeat this procedure if a "public" or "private" community still appears on the SNMP v1 / v2c Community page.

**QUESTION 380**

Which spread spectrum technique uses 11-bit chips to transmit 1 bit of data over a 22-MHz channel?

- A. DSSS
- B. FHSS
- C. OFDM
- D. MIMO
- E. CCK

**Correct Answer:** A

**Section:** (none)

**Explanation**

**Explanation/Reference:**

Explanation:

For every 0 or 1 you want to send, DSSS generates a code representing that 0 or that 1. This code, also called symbol or chip, can be a sequence of up to 11 bits (this is called the Barker 11 code), and these 11 bits are sent in parallel over the 22 MHz channel. You can lose up to nine of these 11 bits due to interferences and still understand whether the code sent was supposed to represent a 0 or a 1.

#### **QUESTION 381**

The network administrator has used VLANs to separate VoIP frames from data frames in the wired network. What must the administrator use to separate those frames in the wireless network?

- A. multiple SSIDs
- B. multiple authentications
- C. multiple WEP or WPA keys
- D. multiple channels
- E. multiple 802.11 radios (a, b, g, n)

**Correct Answer:** A

**Section:** (none)

**Explanation**

**Explanation/Reference:**

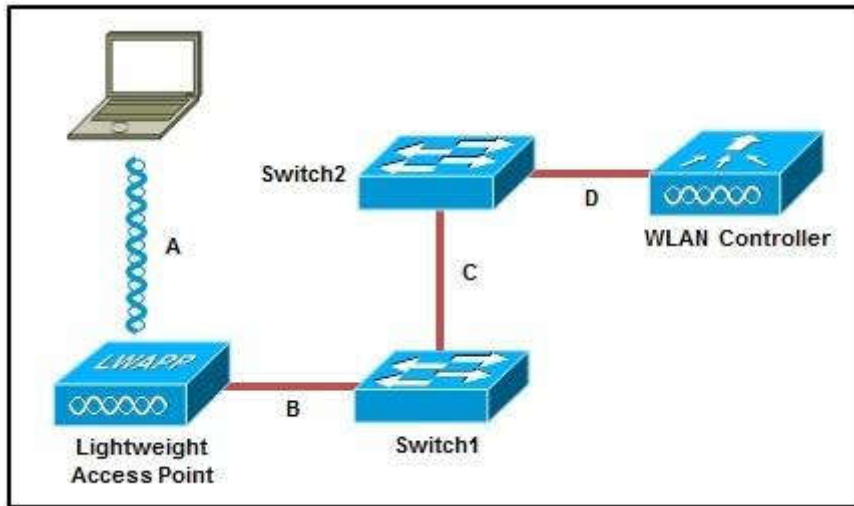
Explanation:

Multiple IEEE 802.11 service set identifiers (SSIDs) allow you to create different levels of network access and to access virtual LANs (VLANs). You can configure up to 16 separate SSIDs to support up to 16 VLANs. Each VLAN can have a different wireless security configuration so that the devices that support the latest Cisco security enhancements can exist alongside legacy devices. This additional access point functionality enables a variety of users having different security levels to access different parts of the network.

[http://www.cisco.com/en/US/docs/wireless/access\\_point/350/configuration/guide/ap350ch1\\_ps458\\_TSD\\_Products\\_Configuration\\_Guide\\_Chapter.html](http://www.cisco.com/en/US/docs/wireless/access_point/350/configuration/guide/ap350ch1_ps458_TSD_Products_Configuration_Guide_Chapter.html)

#### **QUESTION 382**

Refer to the exhibit.



At which point in the network topology must the trunk be configured to support multiple SSIDs for voice and data separation?

- A. A
- B. B
- C. C
- D. D

**Correct Answer:** D

**Section:** (none)

**Explanation**

**Explanation/Reference:**

Explanation:

Controllers typically map WLANs to VLANs. When configuring a switch port to a controller, you would set the port to support 802.1Q (switchport trunk encapsulation dot1q), then set the port to trunk (switchport mode trunk) and only allow the VLANs needed by the controller (for example, switchport trunk allowed VLANs 10,20,30 if your controller needs only VLANs 10, 20, and 30).

**QUESTION 383**

What is the IEEE name for a group of access points that are connected by using the Ethernet?

- A. ESS
- B. BSS

- C. IBSS
- D. ISS

**Correct Answer:** A

**Section:** (none)

**Explanation**

**Explanation/Reference:**

Explanation:

The wired section of the network that can be reached through the AP is called, from the perspective of the wireless side, the Distribution System (DS). When the distribution system links two APs, or two cells, via Ethernet, the group is called an Extended Service Set (ESS).

**QUESTION 384**

Which type of frames are ACK and CF-ACK?

- A. control
- B. management
- C. RTS/CTS
- D. association

**Correct Answer:** A

**Section:** (none)

**Explanation**

**Explanation/Reference:**

Explanation:

Wireless LANs come in three frame types:

Frame Types Table

Management

Control

Data

Beacon

Request to Send (RTS)

Simple data

Probe Request

Clear to Send (CTS)

Null function

Probe Response

Acknowledgment

Data+CF-ACK

Association Request  
Power-Save-Poll (PS-Poll)  
Data+CF-Poll  
Association Response  
Contention Free End (CF-End)  
Data+CF-Ack  
Authentication Request  
Contention Free End + Acknowledgment (CF-End +ACK)  
ACK+CF-Poll  
Authentication Response  
CF-ACK  
Deauthentication  
CF-ACK+CF-Poll  
Reassociation request  
Reassociation response  
Announcement traffic indication message (ATIM)

<http://www.ciscopress.com/articles/article.asp?p=1271797&seqNum=2>

#### **QUESTION 385**

What are the interface statuses of a lightweight AP working in rogue-detection mode?

- A. radios turned off, Ethernet interface up
- B. radios and Ethernet interfaces up
- C. radios turned on, Ethernet interface shut down
- D. radios turned on, Ethernet interface status controlled by Cisco WLC

**Correct Answer:** A

**Section:** (none)

**Explanation**

#### **Explanation/Reference:**

Explanation:

In this mode, the AP radio is turned off, and the AP listens to wired traffic only. The controller passes the APs configured as rogue detectors as well as lists of suspected rogue clients and AP MAC addresses. The rogue detector listens for ARP packets only, and can be connected to all broadcast domains through a trunk link if desired.

<http://www.cisco.com/c/en/us/support/docs/wireless-mobility/wireless-lan-wlan/70987-rogue-detect.html>

#### **QUESTION 386**

Which Cisco AnyConnect module allows you to set the parameters that are needed to connect to the wireless network?

- A. NAM
- B. DART
- C. posture
- D. telemetry

**Correct Answer:** A

**Section:** (none)

**Explanation**

**Explanation/Reference:**

Explanation:

The main components used in IUWNE are the Cisco AnyConnect Mobility Client itself, associated with the Network Access Module (NAM) used to manage existing profiles and provide the wireless connectivity. You also can click Advanced to open the NAM front end. You can then manage profiles (create, delete, reorder). The network administrator can restrict the types of networks that the end user can manipulate on the NAM.

#### **QUESTION 387**

What is the function of the Cisco AnyConnect DART tool?

- A. creates a compressed bundle of client logs and information
- B. visualizes a WLAN environment, showing the possible locations of problems
- C. gathers statistics from neighboring clients for comparison to the baseline
- D. helps to troubleshoot a WLAN connection by using easy-to-use wizards and statistic viewers

**Correct Answer:** A

**Section:** (none)

**Explanation**

**Explanation/Reference:**

Explanation:

AnyConnect offers the DART module that can be used to analyze and troubleshoot connections.

The information collected by DART can be examined locally or exported and sent to a network support desk for analysis. The DART tool is able to create a bundle to log information for all the wireless clients.

#### **QUESTION 388**

Which Cisco program for WLAN client vendors helps to ensure that their devices are interoperable with Cisco WLAN infrastructure?

- A. CCX
- B. CCMP

- C. ASDM
- D. WLSE

**Correct Answer:** A

**Section:** (none)

**Explanation**

**Explanation/Reference:**

Explanation:

IEEE and industry standards define how a Wi-Fi radio interoperates with a wireless LAN infrastructure, and the Wi-Fi CERTIFIED™ seal ensures interoperability. For many organizations that rely on mobile computers, however, Wi-Fi CERTIFIED is not enough. These organizations need assurance that their mobile computers will interoperate with a Cisco wireless LAN infrastructure and support Cisco wireless LAN innovations for enhanced security, mobility, quality of service, and network management. The Cisco Compatible seal gives organizations the assurance that they seek.

A mobile computer earns the Cisco Compatible seal through a program called Cisco Compatible Extensions, or CCX. Like the Wi-Fi certification program, CCX:

The CCX specification is a superset of that used for Wi-Fi certification. In fact, a device cannot be certified for CCX unless it, or the Wi-Fi radio inside it, is Wi-Fi CERTIFIED.

[http://www.digikey.com/Web%20Export/Supplier%20Content/Laird\\_776/PDF/laird-wireless-value-cisco-compatible-extension.pdf?redirected=1](http://www.digikey.com/Web%20Export/Supplier%20Content/Laird_776/PDF/laird-wireless-value-cisco-compatible-extension.pdf?redirected=1)

#### **QUESTION 389**

Which information on the Monitoring page of a Cisco WLC verifies that the wireless network is operational?

- A. In the Access Point Summary section, the All APs number in the Up column is the same as in the Total column.
- B. In the Client Summary section, the Current Clients number is positive.
- C. In the Controller Summary section, the 802.11b/g Network State is shown as Enabled.
- D. In the Controller Summary section, the CPU Usage number is positive.

**Correct Answer:** A

**Section:** (none)

**Explanation**

**Explanation/Reference:**

Explanation:

The output from the access point summary section of the Cisco WLC can be seen at the reference link below:

[http://www.cisco.com/c/en/us/td/docs/wireless/wcs/6-0/configuration/guide/WCS60cg/6\\_0mon.html](http://www.cisco.com/c/en/us/td/docs/wireless/wcs/6-0/configuration/guide/WCS60cg/6_0mon.html)

#### **QUESTION 390**

What is a risk when initiating the containment of a rogue AP?



- A. disassociating clients of valid access points that are operated by a neighboring organization
- B. disrupting transmission of neighboring AP clients
- C. breaking the radio of the containing AP
- D. breaking the rogue client radio or its firmware

**Correct Answer:** A

**Section:** (none)

**Explanation**

**Explanation/Reference:**

Explanation:

Rogue Containment Caveats

<http://www.cisco.com/c/en/us/support/docs/wireless/4400-series-wireless-lan-controllers/112045-handling-rogue-cuwn-00.html>

**QUESTION 391**

Refer to the exhibit.



What does the yellow shield with the exclamation mark indicate?

- A. The network uses open authentication and no encryption.
- B. The network uses an unsupported channel.

- C. The signal is too distorted to connect.
- D. The AP that is transmitting this SSID uses the wrong RF domain.
- E. This is the ad-hoc network.

**Correct Answer:** A

**Section:** (none)

**Explanation**

**Explanation/Reference:**

Explanation:

an exclamation mark inside a yellow shield is displayed if the SSID has no security [Open authentication, no encryption]), clicking Connect and completing the security parameters when applicable.

#### **QUESTION 392**

Which method is used to shield the client from class 3 management attacks?

- A. client MFP
- B. WEP
- C. WPA
- D. client protection suite
- E. 802.1X

**Correct Answer:** A

**Section:** (none)

**Explanation**

**Explanation/Reference:**

Explanation:

With MFP, all management frames are cryptographically hashed to create a Message Integrity Check (MIC). The MIC is added to the end of the frame (before the Frame Check Sequence (FCS)).

When MFP is enabled on one or more WLANs configured in the WLC, the WLC sends a unique key to each radio on each registered AP. Management frames are sent by the AP over the MFP-enabled WLANs.

These APs are labeled with a frame protection MIC IE. Any attempt to alter the frame invalidates the message, which causes the receiving AP that is configured to detect MFP frames to report the discrepancy to the WLAN controller.

<http://www.cisco.com/c/en/us/support/docs/wireless-mobility/wlan-security/82196-mfp.html>

#### **QUESTION 393**

Which protocol helps the administrator to determine whether a detected rogue AP is in the network of the organization?

- A. RLDP
- B. RCP
- C. RDP
- D. RAPP

**Correct Answer:** A

**Section:** (none)

**Explanation**

**Explanation/Reference:**

Explanation:

RLDP is an active approach, which is used when rogue AP has no authentication (Open Authentication) configured. This mode, which is disabled by default, instructs an active AP to move to the rogue channel and connect to the rogue as a client. During this time, the active AP sends deauthentication messages to all connected clients and then shuts down the radio interface. Then, it will associate to the rogue AP as a client.

The AP then tries to obtain an IP address from the rogue AP and forwards a User Datagram Protocol (UDP) packet (port 6352) that contains the local AP and rogue connection information to the controller through the rogue AP. If the controller receives this packet, the alarm is set to notify the network administrator that a rogue AP was discovered on the wired network with the RLDP feature.

<https://supportforums.cisco.com/discussion/10941011/rd-rogue-detector-or-rlap-rogue-location-discovery-protocol>

#### **QUESTION 394**

Which wireless client attempts to authenticate by using 802.1X?

- A. supplicant
- B. authenticator
- C. EAP
- D. RADIUS

**Correct Answer:** A

**Section:** (none)

**Explanation**

**Explanation/Reference:**

Explanation:

802.1x is an Institute of Electrical and Electronics Engineers (IEEE) standard that provides an authentication framework for WLANs. 802.1x uses the Extensible Authentication Protocol (EAP) to exchange messages during the authentication process. The authentication protocols that operate inside the 802.1x framework that are suitable for wireless networks include EAP-Transport Layer Security (EAP-TLS), Protected EAP (PEAP), and EAP-Tunneled TLS (EAP-TTLS). These protocols allow the network to authenticate the client while also allowing the client to authenticate the network.

802.1x authentication consists of three components:

[http://www.arubanetworks.com/techdocs/ArubaOS\\_60/UserGuide/802.1x.php](http://www.arubanetworks.com/techdocs/ArubaOS_60/UserGuide/802.1x.php)

**QUESTION 395**

Which EAP protocol requires a certificate only on the server side?

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

**Correct Answer:** A

**Section:** (none)

**Explanation**

**Explanation/Reference:**

Explanation:

PEAP is not an encryption protocol; as with other EAP types it only authenticates a client into a network.

PEAP uses only server-side public key certificates to authenticate clients by creating an encrypted SSL/TLS tunnel between the client and the authentication server, which protects the ensuing exchange of authentication information from casual inspection.

<http://wiki.freeradius.org/protocol/EAP-PEAP>

**QUESTION 396**

Which encryption algorithm does WPA use?

- A. RC4
- B. DES
- C. AES
- D. DH5

**Correct Answer:** A

**Section:** (none)

**Explanation**

**Explanation/Reference:**

Explanation:

The RC4 Encryption Algorithm, developed by Ronald Rivest of RSA, is a shared key stream cipher algorithm requiring a secure exchange of a shared key. The symmetric key algorithm is used identically for encryption and decryption such that the data stream is simply XORed with the generated key sequence. The algorithm is serial as it requires successive exchanges of state entries based on the key sequence. Hence implementations can be very computationally intensive. The RC4 encryption algorithm is used by standards such as IEEE 802.11 within WEP (Wireless Encryption Protocol) using 40 and 128-bit keys. Published

procedures exist for cracking the security measures as implemented in WEP.  
<http://www.vocal.com/cryptography/rc4-encryption-algorithm/>

#### **QUESTION 397**

Which statement about configuration of Layer 2 wireless user authentication on a Cisco WLC is true?

- A. Local EAP is used only if an external RADIUS is not configured or is unreachable.
- B. The external RADIUS is used only if local EAP is not configured.
- C. The administrator chooses whether local EAP or an external RADIUS is used first.
- D. The external RADIUS is used only if local EAP is explicitly disabled.

**Correct Answer:** A

**Section:** (none)

**Explanation**

#### **Explanation/Reference:**

Explanation:

If any RADIUS servers are configured on the controller, the controller tries to authenticate the wireless clients using the RADIUS servers first. Local EAP is attempted only if no RADIUS servers are found, either because the RADIUS servers timed out or no RADIUS servers were configured. If four RADIUS servers are configured, the controller attempts to authenticate the client with the first RADIUS server, then the second RADIUS server, and then local EAP. If the client attempts to then reauthenticate manually, the controller tries the third RADIUS server, then the fourth RADIUS server, and then local EAP.

[http://www.cisco.com/c/en/us/td/docs/wireless/controller/7-4/configuration/guides/consolidated/b\\_cg74\\_CONSOLIDATED/b\\_cg74\\_CONSOLIDATED\\_chapter\\_0110010.html](http://www.cisco.com/c/en/us/td/docs/wireless/controller/7-4/configuration/guides/consolidated/b_cg74_CONSOLIDATED/b_cg74_CONSOLIDATED_chapter_0110010.html)

#### **QUESTION 398**

Refer to the exhibit.



Which option must be chosen if only the WPA is needed?

- A. WPA+WPA2
- B. Static-WEP + 802.1X
- C. 802.1X
- D. CKIP

**Correct Answer:** A

**Section:** (none)

**Explanation**

**Explanation/Reference:**

Explanation:

Wi-Fi Protected Access (WPA) and Wi-Fi Protected Access II (WPA2) are two security protocols and security certification programs developed by the Wi-Fi Alliance to secure wireless computer networks.

[http://en.wikipedia.org/wiki/Wi-Fi\\_Protected\\_Access](http://en.wikipedia.org/wiki/Wi-Fi_Protected_Access)

### QUESTION 399

Which statement describes a security weakness of a WPA2 with a PSK?

- A. The compromised key can be used for another connection.
- B. The key can be eavesdropped from the wireless medium.
- C. The key can be recreated from a few eavesdropped frames.

D. The key is not case-sensitive and is vulnerable to compromise by brute-force methods.

**Correct Answer:** A

**Section:** (none)

**Explanation**

**Explanation/Reference:**

Explanation:

WPA2-Enterprise is (in my opinion) considerably more secure than PSK.

#### **QUESTION 400**

To implement a more secure means of communication for voice and data, what technology successfully resists interference by utilizing a wider bandwidth than needed for the transmitting signal?

- A. Spread Spectrum
- B. Microwave
- C. Extended U-NII2
- D. ISM Bands

**Correct Answer:** A

**Section:** (none)

**Explanation**

**Explanation/Reference:**

Explanation:

#### **QUESTION 401**

An 802.11g network is experiencing intermittent signal degradation and Spectrum Analyzer is being used to try and locate the problem. What two interferers would likely be identified? (Choose two.)

- A. multiple cell phones
- B. microwave oven
- C. FM Radio
- D. cordless phone
- E. document scanner

**Correct Answer:** BD

**Section:** (none)

**Explanation**



**Explanation/Reference:**

Explanation:

**QUESTION 402**

A wireless bridge is being installed near an airport. An organization informs the city council about complying with max power levels that could be used and settings on any 5GHz channels used that might interfere with the airport radar. What organization is this?

- A. Institute of Electrical and Electronics Engineers
- B. Internet Engineering Task Force
- C. Federal Communications Commission
- D. Wireless Fidelity Alliance

**Correct Answer:** C

**Section:** (none)

**Explanation**

**Explanation/Reference:**

Explanation:

**QUESTION 403**

An installation uses a 21dBi parabolic dish. It is connected to the 802.11n radio via low loss antenna coax rated at 4dB loss/100 feet. After testing, it has been determined that 2mW of power will be lost in the cable. An EIRP producing 200mW is desired. What should the transmit power be set to?

- A. 8mW
- B. 3dBm
- C. 3.16mW
- D. 5mW

**Correct Answer:** C

**Section:** (none)

**Explanation**

**Explanation/Reference:**

Explanation:

**QUESTION 404**

An engineer is seeing a pattern closest to that of an Isotropic Radiator. What other antenna will produce a similar pattern?

- A. 5 dBi patch
- B. 13.5 dBi Yagi
- C. 2.2 dBi omni
- D. 21 dBi parabolic

**Correct Answer:** C

**Section:** (none)

**Explanation**

**Explanation/Reference:**

Explanation:

#### **QUESTION 405**

When using multiple SSIDs on a lightweight AP, how does the traffic of each SSID reach the 802.3 network?

- A. provide routing between them at the core so that the SSIDs can reach the internet
- B. configure 802.11q trunking on the Ethernet switch port that is connected to the AP
- C. configure ACLs at the switch port that will allow all desired SSIDs to pass traffic
- D. configure the SSIDs on the WLC and it will regulate the traffic based on traffic type

**Correct Answer:** B

**Section:** (none)

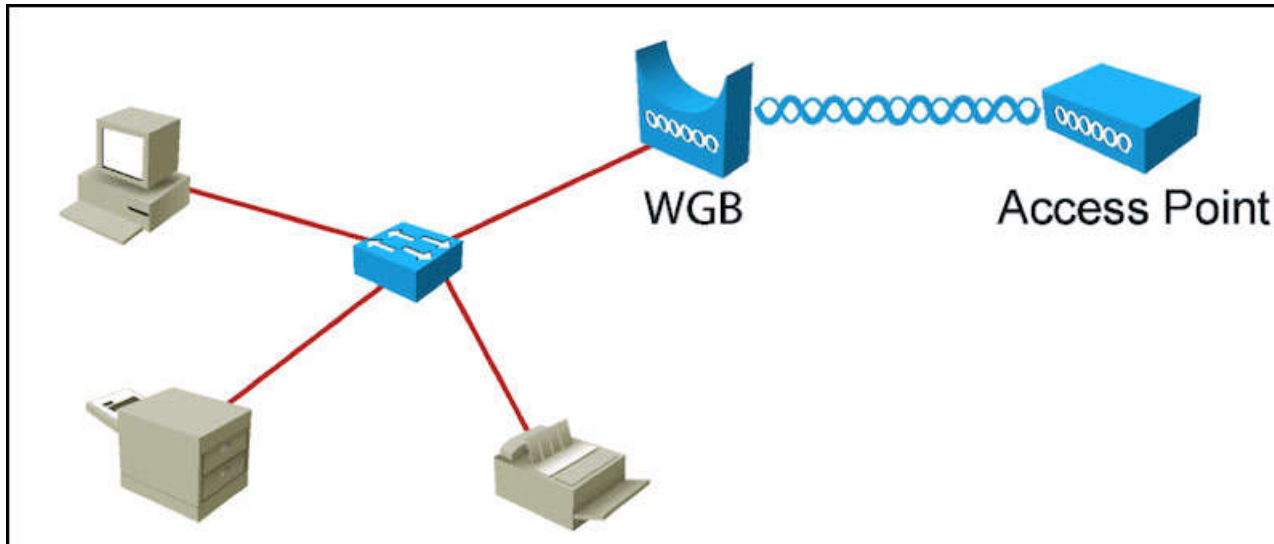
**Explanation**

**Explanation/Reference:**

Explanation:

#### **QUESTION 406**

Refer to the exhibit.



Based on the diagram, what two design requirements must be met? (Choose two.)

- A. WGB is Autonomous
- B. WGB is Universal
- C. WGB can be Autonomous or Universal
- D. Upstream AP is Aironet
- E. Upstream AP is not Aironet
- F. Upstream AP can be any make/model

**Correct Answer:** AD

**Section:** (none)

**Explanation**

**Explanation/Reference:**

Explanation:

#### QUESTION 407

What 802.1x role is responsible for moving a port to the authorized state?

- A. Supplicant

- B. Authenticator
- C. Authentication Server
- D. RADIUS Server

**Correct Answer:** B

**Section:** (none)

**Explanation**

**Explanation/Reference:**

Explanation:

#### **QUESTION 408**

An engineer is gathering information for a wireless survey of a hospital. What three pieces of information must be collected for an active survey to assess the outcome best suited for the facility? (Choose three.)

- A. presence of microwave ovens
- B. number of patients that are at the facility
- C. utilization of Location Services or voice applications
- D. floor plans of adjacent facilities
- E. use of wireless for secure records
- F. spectrum analysis to locate all the computer work stations
- G. existing Network Switch types and model numbers
- H. type of devices present on the new wireless network

**Correct Answer:** ACH

**Section:** (none)

**Explanation**

**Explanation/Reference:**

Explanation:

#### **QUESTION 409**

A company wants to implement wireless in all 20 remote office locations and wants centralized management of these remote sites. What application would meet the requirements?

- A. Control And Provisioning of Wireless Access Points
- B. Cisco point- to multi-point wireless bridging
- C. Cisco autonomous access points in FlexConnect mode

D. Split MAC architecture utilizing LWAPP and WLC

**Correct Answer:** D

**Section:** (none)

**Explanation**

**Explanation/Reference:**

Explanation:

**QUESTION 410**

A customer mounted three new APs in a small business. After configuring the IP address, users still could not access the web through the new access points. What two configurations are needed to fix this? (Choose two.)

- A. Security parameters
- B. Gateway address
- C. Service Set ID
- D. Antenna option
- E. EAP Authentication
- F. Unique AP Name

**Correct Answer:** BC

**Section:** (none)

**Explanation**

**Explanation/Reference:**

Explanation:

**QUESTION 411**

A client is deploying lightweight APs. Those with LAN connections to the controller would be considered what mode of deployment, while access points deployed across a higher latency connection are deployed in what mode?

- A. HREAP; Bridge
- B. Local; Bridge
- C. HREAP; Flex Connect
- D. Local; Flex Connect

**Correct Answer:** D

**Section:** (none)

**Explanation**

**Explanation/Reference:**

Explanation:

**QUESTION 412**

When using DHCP option 43, the discovery option supports vendor specific identifiers in order to obtain what IP address?

- A. core router's gateway
- B. closest distribution switch
- C. local WLAN controller
- D. local Radius Server

**Correct Answer:** C

**Section:** (none)

**Explanation**

**Explanation/Reference:**

Explanation:

**QUESTION 413**

Wireless clients are experiencing loss of connectivity while roaming between controllers. To fix this, what configuration should be the same on all controllers within the mobility group?

- A. management interface IP address
- B. IP address of the virtual interface
- C. AP Manager interface IP address
- D. IP address of the Service Port

**Correct Answer:** B

**Section:** (none)

**Explanation**

**Explanation/Reference:**

Explanation:

**QUESTION 414**

What is a function of the service port on a WLC?

- A. controls mobility manager communications on all physical ports

- B. controls out-of-band management for system recovery and maintenance
- C. controls communication with Cisco Aps
- D. controls communications for all physical ports

**Correct Answer:** B

**Section:** (none)

**Explanation**

**Explanation/Reference:**

Explanation:

**QUESTION 415**

What are three functions of RRM? (Choose three.)

- A. dynamic channel assignment
- B. detection and avoidance of interference
- C. dynamic antenna polarization
- D. dynamic transmit power control
- E. dynamic controller selection
- F. detection and avoidance of AP client load

**Correct Answer:** ABD

**Section:** (none)

**Explanation**

**Explanation/Reference:**

Explanation:

**QUESTION 416**

What three components are required to configure Mobility Group Members between Wireless LAN Controllers? (Choose three.)

- A. Controller Management IP Address
- B. Controller Virtual IP Address
- C. Controller Multicast IP Address
- D. Controller MAC Address
- E. Controller Mobility Group Name
- F. Controller AP Management IP Address
- G. Controller RF Group Name

**Correct Answer:** ADE

**Section:** (none)

**Explanation**

**Explanation/Reference:**

Explanation:

**QUESTION 417**

What authentication method requires a certificate on both the client and authentication server?

- A. PEAP
- B. EAP-TLS
- C. EAP-FAST
- D. WPA-PSK
- E. WEP
- F. EAP-TTLS

**Correct Answer:** B

**Section:** (none)

**Explanation**

**Explanation/Reference:**

Explanation:

**QUESTION 418**

An enterprise needs their iPhones to connect to the EAP-TLS network. How should the devices be configured?

- A. push profile and certificate through Configuration Utility
- B. configure directly through Settings application
- C. email certificate to device then configure through Settings application
- D. download certificate from web page then configure through Settings application
- E. push profile and certificate through iTunes

**Correct Answer:** A

**Section:** (none)

**Explanation**

**Explanation/Reference:**



Explanation:

**QUESTION 419**

What AnyConnect module can be used to provide a detailed scan list of the Wi-Fi environment?

- A. DART
- B. Telemetry
- C. Web Security
- D. NAM
- E. Posture

**Correct Answer:** A

**Section:** (none)

**Explanation**

**Explanation/Reference:**

Explanation:

**QUESTION 420**

What two capabilities would be present on a wireless client device that supports CCXv3? (Choose two.)

- A. WPA2
- B. 802.1x
- C. PEAP-MSCHAP
- D. NAC
- E. MFP
- F. EAP-TLS

**Correct Answer:** AB

**Section:** (none)

**Explanation**

**Explanation/Reference:**

Explanation: