Exam : 646-401

Title : Wireless LAN

Ver : 04.05.06

QUESTION 1
Working in a vertical industry, which of the following are essential benefits of WAN technology? (Choose all that apply.)

A. By providing guests with high-speed, mobile Internet access, hotels can increase customer loyalty.
B. Wireless point of sale (POS) devices can be placed anywhere in a store, flexibly, and without wiring costs.
C. Temporary classroom trailers in educational institutes can quickly be connected to main educational buildings with low-cost leased lines.
D. By providing quick access to accurate patient information at the patient bedside, hospitals can improve patient care.

Answer: B, C, D

Explanation: http://www.cisco.com/warp/public/cc/pd/witc/ao340ap/prodlit/airo_ov.htm
Current vertical markets include:
Education
Finance
Health care
Hospitality and retail
Manufacturing and industrial

QUESTION 2
You are the network administrator at Certkiller. Your newly appointed Certkiller trainee wants to know the advantages are of using Cisco Aironet workgroup bridge (WGB). What would your reply be? (Choose all that apply.)

A. Cable installation costs are eliminated and facilities costs are significantly lowered.
B. Movement of equipment when work groups change in number and location is easily facilitated.
C. It can provide up to 8 MAC addresses to support access from wired devices, when attached to a hub.
D. Device access drivers are provided free of charge.
E. Non-Cisco 802.11b WLAN infrastructure is not an issue.
F. It supports remote workgroups up to 10 miles away with clear line of sight to a wireless bridge
by using an optional long-range antenna.

Answer: B, C, D, F

Explanation: http://www.knowledge.net
http://www.cisco.com/warp/public/cc/pd/witc/ao350ap/prodlit/a350b_ds.htm
Designed to meet the needs of remote workgroups, satellite offices, and mobile users, the Cisco Aironet(r) 350 Series Workgroup Bridge brings the freedom and flexibility of wireless connectivity to any Ethernet-enabled device. The workgroup bridge quickly connects up to eight Ethernet-enabled
laptops or other portable computers to a wireless LAN (WLAN), providing the link from these devices to any Cisco Aironet Access Point (AP) or Wireless Bridge. The Cisco Aironet 350 Series Workgroup
Bridge offers:
Driverless installation of up to eight Ethernet-enabled devices

Optimum wireless performance and range
Standards-based centralized security
Two versions for a range of application requirements
Full-featured utilities and robust management

QUESTION 3
Authentication and association is part and parcel of the process when a client attaches to an Access Point (AP).
Which of the following statements is true? (Choose all that apply.)

A. Association is the process of AP association with a specific Service Set Identifier (SSID) entry.
B. Association is the process of associating a client with a given AP in the WLAN.
C. Authentication is the verification of the user credentials wanting to join a WLAN.
D. Authentication is the verification of the client credentials wanting to join a WLAN.
E. Association is when a user is associated with a specific client entry in the RADIUS database.
F. Authentication is the verification of the credentials of a session-generated Wired Equivalent
Privacy (WEP) key.

Answer: B, D

Explanation: Authentication and Association
The process a client undergoes while "attaching" with an AP is two part, authentication and association.
Authentication is the process of verifying the credentials of a client desiring to join a WLAN. Association is the
process of associating a client with a given access point in the WLAN.

QUESTION 4
Which of the following are the characteristics of the type of security called Wired Equivalent Privacy (WEP) as
defined by the 802.11 standard?
(Choose all that apply.)

A. 40-bit keys
B. Dynamic creation of WEP keys.
C. Static key sharing between the wireless client and Access Point (AP).
D. Statically defined keys
E. Username/password authentication

Answer: A, C, D

Explanation: http://www.cisco.com/warp/public/cc/so/cuso/epso/sqfr/safwl_wp.htm
802.11 and WEP
The 802.11 standard defines a type of security, Wired Equivalent Privacy (WEP), has initially defined 40-bit
keys. These keys are used to encrypt the data packets prior to being transported across the open through the RF.
RC4 Encryption WEP is based upon the RC4 encryption method from RSA Data Security, Inc. Using this
method, a wireless client and AP share static WEP Keys 128-Bit Encryption WEP can also be utilized with a
32 character string which equates to 128-bit encryption. The IEEE 802.11 standard has chosen to use 40-bit
keys. Several vendors such as Lucent and Cisco support 128-bit WEP encryption with their WLAN solutions
for improved security. WECA also allows for the use of 128-bit WEP encryption to achieve the Wi-Fi seal.

QUESTION 5
A common method of securing early WLANs used to be the Service Set Identifier (SSID). Which of the following describes the SSID? (Choose all that apply.

A. 40-bit keys
B. Static defined keys
C. Network naming scheme for RF networks
D. Must match on both client and Access Point (AP)
E. One-way authentication

Answer: C, D

Explanation: SSID Use
The SSID is a network-naming scheme to define the radio frequency (RF) network that both the client and the AP must share. If the client does not have the proper SSID, it would be unable to associate to the AP, and would have no access to the network.

QUESTION 6
Your newly appointed Certkiller trainee wants to know what the features of Cisco Aironet Access Points (APs) is. What will you reply? (Choose all that apply.)

A. It supports Layer 3 routing.
B. It controls incoming and outgoing traffic flow in the wired network.
C. It provides ports for a maximum of 8 wired machines.
D. It allows network access to wireless clients.
E. It allows for seamless roaming between wireless cells.

Answer: B, D, E

Explanation: Cell Master
The AP is the master for the cell, and controls traffic flow to and from the network. The remote devices do not communicate directly with each other; they communicate to the AP.
Higher Standards
The products seamlessly integrate into wired Ethernet networks, fully comply with the IEEE 802.11b standard at all speeds, and deliver up to 11 Mbps throughput. Security and hardware features have been improved to ensure stability and enhanced performance.
Filtering
Broadcast and multicast filtering enables administrators to select the amount of such frames that enter the WLAN, conserving the shared bandwidth. Layer 3 IP Net and IP Socket filters are also provided.
http://www.cisco.com/warp/public/cc/pd/witc/ao1200ap/prodlit/casap_ds.htm Fast secure roaming is supported by the Cisco Aironet 1200 Series in conjunction with Cisco or Cisco Compatible client devices. With fast secure roaming, authenticated client devices can roam securely from one access point to another without any perceptible delay during reassociation. Fast secure roaming supports latency-sensitive applications such as wireless voice over IP (VoIP), enterprise resource planning (ERP), or Citrix-based solutions. (Figure 3).

QUESTION 7
How can an educational institute benefit from WLAN mobility? (Choose all that apply.)

A. A workgroup bridge (WGB) can connect a temporary mobile classroom to the main network, enabling the sharing of scholastic aids where needed.
B. WLAN technology facilitates an affordable solution to connect classroom trailers to the main building by rendering highly priced wires and cables obsolete.
C. WLAN technology can provide network access to all student records and instructional materials, giving access to both students and teachers.
D. WLAN technology facilitates the establishment of high-speed network connections between buildings, incurring only leased line installation costs.

Answer: B, D

Explanation:
Mobile Classrooms
WLANs can also provide a low cost solution to connect remote classrooms (trailers) to the main school building. The expense of running fiber or copper to those potentially mobile buildings is cost prohibitive.
Used As a Wireless Bridge
WLAN is used as a replacement for leased line/frame relay in the educational market because it has no recurring costs. The Cisco Aironet 350 series bridge is used to connect all the remote school locations to a centralized location. This centralized location will then have a pipe to the ISP (either leased or wireless).

QUESTION 8
Which of the following statements regarding Cisco wireless bridges are valid? (Choose all that apply.)

A. It operates at Layer 2.
B. It doubles as an AP in some applications.
C. It does not need line of sight.
D. It does not increase the Ethernet hop count
E. It provides IP subnetting on the remote LAN.
F. Network can view it as simple cables.
G. Obstacles such as buildings, trees, and hills have no effect.
H. All of the above.

Answer: A, B, D, F

Explanation: Wireless Bridge Use
Wireless bridges connect two or more physically separated networks, even when they are separated by obstacles such as freeways, railroads, and bodies of water. Cisco wireless bridges also allow multiple sites to share a single, high-speed connection to the Internet.
Routing Limitation
Cisco Bridges operate at the MAC address layer (Data Link Layer), which means they have no routing capabilities. A router must be put in place if IP subnetting is needed within the network.
Point-to-Point Bridges
In a point-to-point bridge, two LANs can be located up to 25 miles apart. The antennas must have line of site

with each other. Obstacles such as buildings, trees and hills will cause communication problems.
Unified Segments
Ethernet segments in both buildings act as if they are one. The bridge does not add to the Ethernet hop count, and is viewed by the network as simply a cable. A simple parameter change in one of the bridges will allow for the bridges to communicate with each other.
Wireless Bridge Deployment
A bridge can act as an AP in some applications by communicating with clients at the remote sites. These clients can include the Cisco Workgroup Bridge, PC Card and PCI products. Multiple topologies provide a wide range of networking options.

QUESTION 9
How does medical science use and benefit from WLAN technology? (Choose all that apply.)

A. Hospitals can enhance productivity by providing nurses with access to patient records from home.
B. Interns can do their rounds with wireless carts to look up records and lab results.
C. Doctors can get up to date information instantly by checking the Internet to research medical conditions from the patient's bedside.
D. Doctors can inform the next of kin of their patients' conditions through the Internet instantaneously.
E. Medical research groups can share resources across multiple hospitals throughout a given radio frequency (RF) regulatory domain.

Answer: B, C

Explanation: Mobility and Efficiency
With their wireless solution, the hospital team begins work rounds with two wireless carts, giving them the ability to look up labs and graphic trends for a patient while at the bedside. The carts are also connected to the Internet, facilitating instant research.
Quicker Data Access
The result is quicker, more convenient access to records and research data, which has proven invaluable in situations ranging from emergency care to daily patient visitation. The Cisco WLAN solution has been essential to successfully implementing online order entry in the intensive care unit.
Medical Use
By implementing Cisco WLAN solutions, hospitals improve data input, provide more efficient access to data at the patient's bedside, and enable more flexible and mobile patient monitoring.

QUESTION 10
You are a network technician at Certkiller.com. Your newly appointed Certkiller trainee wants to know which credentials are necessary when using the LEAP authentication method. How will you reply? (Choose all that apply.)

A. WEP key
B. User name
C. Static keys
D. Password
E. Public key
F. EAP logon

Answer: B, D

Explanation:
http://www.cisco.com/en/US/customer/about/ac123/ac114/about_cisco_online_exclusive09186a00800a5cab.html
Step by Step: Cisco LEAP
The Cisco derivative of EAP is based on mutual authentication, which means that both the user and the AP to which the user is attempting to connect must be authenticated before access onto the corporate network is allowed. Mutual authentication protects enterprises from unauthorized (or "rogue") APs serving as a potential launching pads for entry into the network. Cisco LEAP is based on a username/password scheme and uses the following basic authentication process:
1. A client connects to the wireless medium.
2. The client sends a start message to an AP.
3. The AP sends an access request on behalf of the client to the authentication server.
4. The client sends its username to the AP, which forwards it to the authentication server.
5. The authentication server sends a challenge back.
6. The AP forwards the challenge to the client as an EAP message over 802.1X.
7. The client runs the challenge through the Cisco LEAP algorithm, mixes challenge and user password together, and responds with a value, which the AP forwards to the authentication server.
8. The authentication server runs the user password through the Cisco LEAP algorithm, which processes the challenge and client response, then compares its derived value with the value it received from the client. If the two values match, the authentication server sends a success message to the AP, which passes it to the client.
9. Now, the client sends a challenge to the authentication server to authenticate the AP (the network), and proceeds through the reverse Cisco LEAP process.
10. If the network is successfully authenticated, the client passes a success message through the AP to the authentication server, which opens a port. The user is live on the network.
11. Cisco LEAP RADIUS server a WEP key for that session and stores it in the AP.
12. The Cisco LEAP client locally derives the WEP key.

QUESTION 11
What will you need to overcome a situation where extended wireless cell coverage is needed, but access to the backbone is either, lacking, impractical or unavailable? (Choose all that apply.)

A. 50% cell overlap
B. Workgroup bridge
C. 10-15% cell overlap
D. Wireless repeater
E. Line of sight to AP or wireless bridge
F. None of the above.

Answer: A, D

QUESTION 12
Which of the following are reasons to use Cisco WLAN in the business environment? (Choose all that apply.)

A. The need to increase productivity by increasing the number of work stations.
B. The need to move networked work resources frequently.
C. The need to increase the number of network users.
D. The need to increase productivity with employee mobility.
E. The need to use older building, leased space, or temporary sites with wiring issues.
F. All of the above.
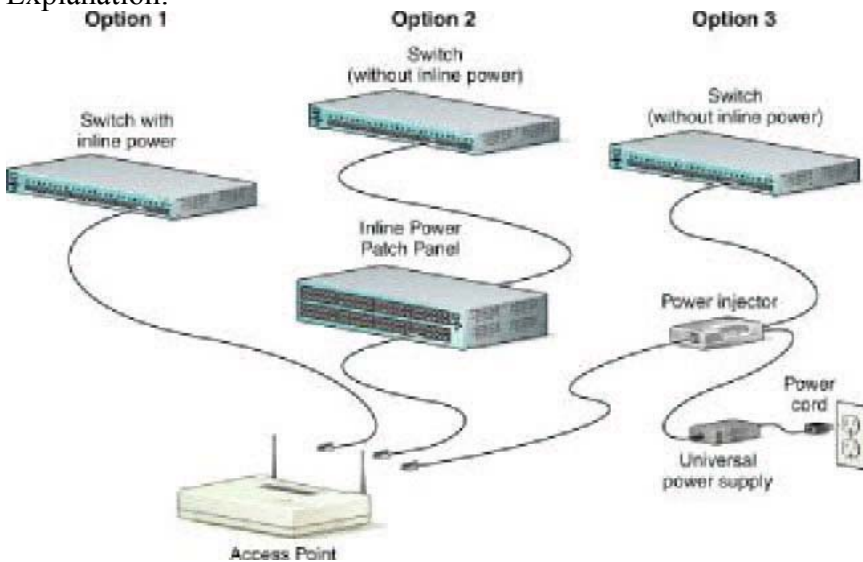
Answer: B, D, E

QUESTION 13
Which of the following can be used as available sources of inline power for the Access Point (AP) 350?
(Choose all that apply.)

A. 3524-PWL-XL switch
B. Inline power injector
C. Standard power cable
D. 7500 series routers
E. Inline power patch panel
F. Optic cables
G. None of the above.

Answer: A, B, E
Explanation:

QUESTION 14
Which of the following metric are utilized in measuring returns on investments (ROI) when implementing
Cisco WLAN solutions in a vertical industry background? (Choose all that apply.)

A. Higher student attendance rates at schools, when a WLAN is used to provide sick students access to school
resources from home.
B. Lower litigation costs in the financial services field, when a WLAN is used to protect assets, such as
customer account information, from security breaches.

C. Higher room occupancy rates in hotels, when a WLAN is used to attract business professionals.
D. Higher inventory turnover rates in the retail business, when a WLAN solution is used for the timeout restocking of merchandise.
E. Higher recovery rates of patients in hospitals, when a WLAN solution is used to provide patient care at the bedside.
F. All of the above

Answer: B, D, E

QUESTION 15
Which statement represents a common reason for using Cisco in-building WLAN solution in the business environment?

A. Enhancing traditional wired network performance.
B. Wireless moving, adding, and changing user locations.
C. Expanding to a remote location in another city.
D. Increased user access authorization to the network.
E. None of the above.

Answer: B

QUESTION 16
You are a network technician at Certkiller.com. Your newly appointed Certkiller trainee wants to know why Cisco WLAN is preferred for communications in fast-growing organizations. What would your reply be? (Choose all that apply.)

A. Location of computers in cases where it would have been impractical or impossible to run cables.
B. Portable computers can roam freely within a city while maintaining network access.
C. It is possible to access information from conference rooms, reception areas and other temporary locations in real-time.
D. Traditional LANs can be disposed of.
E. Temporary workgroups can be established quickly.
F. No traversing of firewalls when accessing Internet websites.

Answer: A, C, E

QUESTION 17
What makes a Cisco WLAN solution the preferred choice when considering its security features?

A. It can circumvent physical barriers when transmitting.
B. It will protect confidential or proprietary data when it is transmitted over WLAN via radio waves.
C. It does not allow corruption of data by radio interference.
D. It is able to recover data lost during transmission.

Answer: B

QUESTION 18
Cisco WLAN security is capable of supporting Wired Equivalency Privacy (WEP) technology. In what fashion does WEP technology protect confidential and proprietary data?

A. It creates decoy data packets for redundancy.
B. It uses a 40-bit or 128-bit encryption key to encrypt the text.
C. Network access is limited to authorized users.
D. Potential internal and external network intrusion can be detected.

Answer: B

Explanation:
802.11 and WEP
The 802.11 standard defines a type of security, Wired Equivalent Privacy (WEP), that has initially defined 40-bit keys. These keys are used to encrypt the data packets prior to being transported across the open through the RF.
128-Bit Encryption
WEP can also be utilized with a 32 character string which equates to 128-bit encryption. The IEEE 802.11 standard has chosen to use 40-bit keys. Several vendors such as Lucent and Cisco support 128- bit WEP encryption with their WLAN solutions for improved security. WECA also allows for the use of 128-bit WEP encryption to achieve the Wi-Fi seal.

QUESTION 19
You are a network technician at Certkiller.com. Your newly appointed Certkiller trainee wants to know why enterprise customers opt to use WLAN and wireless bridge components to extend their wired networks. What would your reply be?

A. Additional equipment has to be purchased
B. Wire-related costs are kept to a minimum
C. Changes in personnel must be accommodated
D. Relocation of resources is made possible

Answer: B

QUESTION 20
A rapidly expanding manufacturing plant plans to lease new premises what are situated within eyeshot of their existing campus. They however want to avoid the unnecessary costs that are associated with expanding an existing network. What is the best positioning statement for this sales situation?

A. Cisco wireless bridges can facilitate the rapid relocation and distribution of resources in disparate buildings within a campus, without replacing the existing traditional LAN.
B. Cisco wireless bridges enable companies to quickly add line-of-sight buildings to a high-speed campus network, without the high cost associated with having to dig trenches, leasing lines, and right-of-way issues like expropriation.
C. Cisco wireless bridges will facilitate a quick, shared single hop-speed line to the Internet between buildings.
D. Cisco wireless bridges are high-speed, high-power radio transceivers that provide connectivity between two

or more buildings regardless of distance between, in a single LAN.

Answer: A

QUESTION 21
How is a single LAN created by Cisco wireless bridges?

A. By encrypting data that is transmitted through the air.
B. By allowing the connection of mobile users to a backbone LAN without problems.
C. By seamlessly linking remote networks.
D. By transmitting data through ceilings, floors, and walls without corrupting it.

Answer: C

QUESTION 22
Your newly appointed Certkiller trainee wants to know what gives WLAN deployment the edge in multidwelling
units (MDUs) and multi-tenant units (MTUs). What will your reply be?

A. Due to increased mobility that the WLAN facilitates, the use of costly network resources are maximized.
B. Due to their proximity to an Access Point (AP), multiple users can access the Internet without having to bear
the costs of installing cable.
C. There is no need to consider physical obstructions or distances between within a building unit when
implementing a WLAN.
D. Users can share resources due to simplified WLAN installation and management.

Answer: B

Explanation:
Mobile Network Access
Away from the office, one important deployment location for WLANs is in multi-dwelling units (MDUs) or
multi-tenant units (MTUs), where proximity to an AP allows multiple users to access the internet at home
without the costs of installing cables.

QUESTION 23
Which of the following statements regarding the radios within the Cisco Aironet 350 and 1200 Access Points
(APs) are valid? (Choose all that apply.)

A. Both are WECA "Wi-Fi" compliant.
B. 802.11 do not cover the communication between Access Point (APs) and the backbone infrastructure, but
Cisco Aironet Wireless excels in this area.
C. They meet the 802.11a specifications only.
D. They meet the 802.11b specifications only.
E. Cisco is shipping its 1 st generation of 802.11b products.
F. They meet both 802.11, 802.11a and 802.11b specifications.
G. They improve upon 802.11 WEP by implementing 802.1x and Cisco LEAP.

H. All of the above.

Answer: A, B, F, G

QUESTION 24
Cisco Aironet 350 and 1200 Access Points (APs) have four unique features in common. What are these features? (Choose all that apply.)

A. Inline power
B. Dual-cell service area (DSA)
C. 100 mW output power on the 802.11b radio
D. Fire-wire in the fixed internal antenna
E. An 802.11b radio
F. Fixed internal antenna
G. Plenum-rated enclosure
H. all of the above

Answer: A, C, E, G

QUESTION 25
The delivery of improved performance in all circumstances, even in harsh environments can be attributed to Cisco Aironet series Access Points (APs).
Which of the following Access Point (AP) features makes a significant contribution to this industry-leading range and its reliability? (Choose all that apply.)

A. Inline power
B. Line of sight reception
C. 100 mW transmit power
D. Transmit sensitivity
E. Superior delay spread characteristics
F. Line of sight transmission
G. Antenna diversity
H. Sensitive reception
I. All of the above

Answer: C, E, G, H

Explanation: http://www.cisco.com/univercd/cc/td/doc/pcat/ao350ap.htm#xtocid6
Industry-Leading WLAN Performance, Range, and Reliability The 100-mW transmit power and receive sensitivity of the Cisco Aironet 350 Series AP leads the industry in range and reliability. Antenna diversity and superior delay spread (multipath) characteristics of the Cisco Aironet 350 Series deliver improved performance even in harsh environments such as warehouses, factories, and metal buildings. Administrators can also configure the radio transmit power (1, 5, 20, 30, 50, 100 mW) on the Cisco Aironet 350 Series to meet the specific coverage requirements and minimize interference. In addition to
an AP with two captured 2.2 dBi antennas, an AP with two RP-TNC connectors is offered for more challenging

applications, where a broad portfolio of removable antennas can be used to further increase range and reliability.

QUESTION 26
Enterprise customers are adding WLAN and wireless bridge components to their networks in order to extend wired networks without_____.

A. wire-related costs
B. additional equipment
C. changes in personnel
D. relocation of resources

Answer:

QUESTION 27
A high-growth manufacturing company plans to lease new buildings within sight of the existing campus, while avoiding unnecessary networking expenses.
What is the best positioning statement for this sales situation?

A. Cisco wireless bridges allow companies to quickly set up a shared single high-speed line to the Internet across a campus.
B. Cisco wireless are high-speed, high-power radio transceivers that connect two or more building that are up to 25 miles apart in a single LAN.
C. Cisco wireless bridges allow companies to quickly relocate and distribute resources in disparate buildings within a campus, without replacing the existing traditional LAN.
D. Cisco wireless bridges enable companies to quickly add line-of-sight buildings to a high-speed campus network, without the high cost associated with trenches, leased lines, and right-of-way issues.

Answer:

QUESTION 28
How do Cisco wireless bridges create a single LAN?

A. by seamlessly linking remote networks
B. by encrypting data that transmit through the air
C. by easily connecting mobile users to a backbone LAN
D. by cleanly transmitting date through ceilings, floors, and walls

Answer:

QUESTION 29
What are three key benefits of WLAN technology for a vertical industry? (Choose three.)

A. Hotels can increase customer loyalty by providing quests with high-speed, mobile Internet access.
B. Hospitals can improve patient care by providing quick access to accurate patient information at the patient bedside.

C. Retail stores can flexibly, and without wiring costs, place wireless point of sale (POS) devices anywhere in the store.
D. Educational institutions can quickly connect temporary classroom trailers to the main school building with low-cost leased lines.

Answer:

QUESTION 30
What are three business drivers for using a Cisco WLAN (Choose three.)

A. the need to increase the number of network users
B. the need to move networked work resources frequently
C. the need to increase productivity with employee mobility
D. the need to use older buildings, leased space, or temporary sites with wiring issues

Answer: