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Huawei Certified ICT Professional - Wireless Local Area Network- Planning and Optimizing Enterprise WLAN

Huawei H12-322

Version Demo

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QUESTION NO: 1

Which of the following APs supports MIMO 3*3 technology?

A. AP6010DN

B. AP5010DN

C. AP6010SN

D. AP7110DN

ANSWER: A

Explanation:

AP6010DN supports 3 × 3 MIMO. It is a dual-radio indoor Huawei access point designed around 802.11ac Wave 1 capabilities, with three transmit and three receive radio chains on its WLAN radios. A 3 × 3 MIMO design supports up to three spatial streams, enabling the AP to use concurrent spatial transmission paths to increase wireless throughput and capacity when associated client devices also support the relevant number of streams. In Huawei's product specifications, AP6010DN is described with 3 × 3 MIMO and a maximum aggregate access rate of up to 1.75 Gbit/s, derived from its 2.4 GHz 802.11n and 5 GHz 802.11ac radio capabilities. Therefore, AP6010DN is the appropriate model when the requirement specifically calls for 3 × 3 MIMO technology. Huawei's enterprise WLAN access-point portfolio and associated technical documentation can be accessed through the Huawei WLAN Access Points page and the Huawei Enterprise Support documentation portal.

QUESTION NO: 2

What is wrong about the Fresnel region?

A. The Fresnel zone of the radio beam is an ellipsoidal region that surrounds the visible line of sight directly.

B. The antenna installation position should ensure that the two nodes of the link are visible, and try to ensure that there is no obstruction in the Fresnel zone.

C. Two nodes of the site link are visible, and the Fresnel zone boundary is blocked, which will not affect the link transmission effect.

D. The distance between the stations is 2 kilometers, and the radius of the Fresnel area is about 6 meters.

ANSWER: C

Explanation:

"Two nodes of the site link are visible, and the Fresnel zone boundary is blocked, which will not affect the link transmission effect." is the incorrect statement. A clear visual line of sight alone does not ensure a reliable wireless bridge or outdoor WLAN link. Radio-frequency energy propagates over an expanding ellipsoidal volume around the direct path, known as the Fresnel zone. Objects that intrude into this volume can cause diffraction, reflection, phase cancellation, and attenuation at the receiver. These effects can reduce received signal strength, lower modulation and throughput, and make the link less stable, even when both antennas remain visually visible to one another.

Link planning therefore evaluates Fresnel-zone clearance in addition to geometric line of sight. As a practical design target, engineers commonly preserve at least 60% clearance of the first Fresnel zone, with greater clearance preferred where terrain, vegetation growth, or installation tolerances could create future obstruction. The Fresnel-zone radius varies with both link distance and operating frequency, so it must be calculated for the actual deployment. Cisco's wireless bridge guidance discusses the need to maintain Fresnel-zone clearance for outdoor links: Cisco: Fresnel Zone and Wireless Bridges. Additional background on the propagation model is available from ITU-R Recommendation P.526.

QUESTION NO: 3

Assume that the Root AP is installed on a 30-meter tower with coordinates (0m, 0m), and four Leaf APs are at (200m, 100m).

(200m, 0m), (800m, 400m) and (1000m, 0m) in the four positions of the 7-meter pole, all equipment used

AP6510DN, and the antenna is the same. Each Leaf AP requires 1 Mbps of bandwidth and the local EIRP is unlimited.

Which of the following antennas is optimal for a Root AP?

A. 11dBi_H60 degrees _V30 degrees

B. 27dBi_H5 degrees _V5 degrees

C. 18dBi_H15 degrees _V15 degrees

D. 13dBi_H15 degrees _V60 degrees

ANSWER: A

Explanation:

The optimal Root AP antenna is **11dBi_H60 degrees _V30 degrees**. From the Root AP, the Leaf AP azimuths extend from approximately 0° to 26.6°. A 60° horizontal beamwidth covers this entire sector while providing useful alignment tolerance for installation and minor site-survey variation. The Root AP is 23 m higher than every Leaf AP, so the relevant downward elevation angles range approximately from −6.6° for the nearest sites to −1.3° for the most distant sites. A 30° vertical beamwidth can therefore be tilted downward to include all four Leaves within the main lobe, maintaining practical coverage across both short and long links.

The 11 dBi gain is appropriate because the longest link is only about 1 km and every Leaf requires just 1 Mbps. With no local EIRP constraint, the design objective is not maximum gain; it is consistent sector coverage for all intended Leaf locations. This antenna's comparatively wide horizontal and vertical patterns best match the calculated geometry, allowing the Root AP to serve the complete Leaf cluster reliably. Huawei outdoor WLAN planning should account for antenna radiation patterns, mounting height, alignment, and line-of-sight conditions; see Huawei WLAN products and Huawei Enterprise Support.

QUESTION NO: 4

Regarding the deployment of the AP9330DN room division program, which of the following factors need to be considered?

A. Try to choose a shorter length feeder

B. It is recommended to use dual-stream dual-frequency directional antenna

C. Try to hide the antenna in the ceiling

D. Antenna is treating the coverage area

ANSWER: A B D

Explanation:

For AP9330DN room-division coverage, RF signal loss, antenna characteristics, and antenna orientation directly determine whether the intended indoor area receives stable service. "Try to choose a shorter length feeder" is required because feeder and connector loss reduces the power delivered to an external antenna and also reduces received-signal quality. Keeping the feeder short helps preserve the link budget, particularly where walls and room partitions already introduce attenuation. "It is recommended to use dual-stream dual-frequency directional antenna" is appropriate because a dual-band directional antenna supports service on both commonly deployed WLAN bands while concentrating RF energy in the desired direction. This makes it suitable for targeted, room-oriented coverage. "Antenna is treating the coverage area" reflects the essential installation requirement that the directional antenna be aimed toward the area it is intended to serve. Correct orientation aligns the main lobe with users, improves useful signal strength, and assists with controlling coverage boundaries between rooms. These considerations are consistent with Huawei WLAN deployment practice, which emphasizes antenna selection, feeder-loss control, and installation direction during RF planning. See Huawei's WLAN product and documentation portal and the Huawei Enterprise WLAN overview.

QUESTION NO: 5

The following is the correct statement about the requirements for confirming the on-site environmental information during the WLAN site survey process?

A. Room number on site

B. Focus on the outdoor coverage, only need to focus on the obstacles between the AP and the coverage area.

C. Color marking and testing its 2.4G and 5G attenuation values

D. Large objects such as broken and suspended ceilings

E. Outdoors need to pay attention to the height and shielding range of obstacles on the site. For irregular obstacles (such as trees), try to take photo records.

ANSWER: A C D E

Explanation:

“Room number on site,” “Color marking and testing its 2.4G and 5G attenuation values,” “Large objects such as broken and suspended ceilings,” and “Outdoors need to pay attention to the height and shielding range of obstacles on the site. For irregular obstacles (such as trees), try to take photo records.” are all essential parts of recording environmental information during a WLAN survey. Accurate room identification ties survey observations, AP locations, cabling information, and later acceptance-test results to the floor plan. Surveyors must identify and mark material boundaries and measure or estimate their attenuation separately at 2.4 GHz and 5 GHz, because propagation and penetration loss vary by frequency. Large physical features, including ceiling structures and other substantial objects, can alter signal paths, create shadowed areas, or affect the feasible AP mounting position. For outdoor designs, obstacle height and the area that may be blocked are needed to assess line-of-sight and coverage risk. Photographs of irregular objects such as vegetation preserve details that may be difficult to represent precisely on a drawing and support later design review. These records allow the WLAN design to use real site conditions rather than an idealized floor plan. Huawei’s enterprise WLAN resources are available through Huawei Enterprise Support, and Huawei’s WLAN product and solution guidance is available at Huawei Enterprise WLAN.

QUESTION NO: 6

The following description of the role of the coupler is wrong?

A. Combine multiple input signals into one output, and then split the mixed signal in the opposite direction.

B. Average one signal into multiple outputs

C. Take the required signal energy from the main line to the near-end antenna and allocate more signal energy to the far-end antenna

D. Connect the RF port of the AP to the antenna interface.

ANSWER: A B D

Explanation:

A directional RF coupler is a passive component used to divide power unequally between its through port and coupled port. In a distributed antenna arrangement, it takes a specified proportion of RF energy from the main feeder for a nearer antenna while allowing the remaining, typically greater, energy to continue along the feeder toward a farther antenna. Therefore, “Take the required signal energy from the main line to the near-end antenna and allocate more signal energy to the far-end antenna” correctly describes the intended use of a coupler and is not selected.

“Combine multiple input signals into one output, and then split the mixed signal in the opposite direction” describes combiner/splitter functionality rather than directional coupling. “Average one signal into multiple outputs” describes equal power division, which is the role of a power splitter. “Connect the RF port of the AP to the antenna interface” describes the feeder or RF cable connection function. These are consequently the incorrect descriptions requested by the question. Huawei WLAN antenna-system planning materials distinguish RF feeder components and emphasize selecting passive

components according to their power-distribution function; see the Huawei Enterprise Support portal and Huawei's WLAN product documentation resources.

QUESTION NO: 7

Which of the following options is incorrect about the FIT AP description?

A. FIT AP is a traditional AP. In addition to providing basic wireless connectivity, it also provides security, management, and performance enhancements

B. FIT AP cannot be used in conjunction with AC

C. FIT AP differentiates from traditional FAT APs, providing only reliable, high-performance wireless connectivity, while stripping other features

D. FIT AP must be used in conjunction with AC

ANSWER: A B

Explanation:

The incorrect descriptions are "FIT AP is a traditional AP. In addition to providing basic wireless connectivity, it also provides security, management, and performance enhancements" and "FIT AP cannot be used in conjunction with AC." In Huawei's controller-based WLAN architecture, a Fit AP is specifically designed to operate under the management and control of an access controller. The AP principally supplies radio access and forwards wireless traffic, while the AC centrally delivers key control-plane and management functions, including WLAN service configuration, policy enforcement, user access control, roaming coordination, and centralized operations and maintenance. Therefore, characterizing a Fit AP as a traditional independently featured AP that itself provides the full set of security, management, and performance functions is inaccurate. It is also inaccurate to state that a Fit AP cannot work with an AC: association with an AC is the defining deployment model for Fit APs. This centralized architecture lets organizations apply consistent wireless policies and manage many APs efficiently from a common controller. Huawei's WLAN portfolio describes this controller-and-AP approach and its centralized management capabilities: Huawei Wireless LAN products. Additional Huawei enterprise WLAN information is available at Huawei Enterprise Support.

QUESTION NO: 8

Which of the following options are characteristic of the business needs of high-density venues?

A. Multiple types of business access control

B. There are many user terminals, and the types are concentrated.

C. Users only connect in a certain area, no need to consider roaming

D. Large number of user registration management, centralized user authentication

ANSWER: A B C D

Explanation:

High-density venues, such as stadiums, conference halls, exhibition centers, and large public gathering areas, combine a very high number of concurrently connected terminals with concentrated user behavior. Therefore, "There are many user terminals, and the types are concentrated." is a core business characteristic: large groups commonly use similar mobile devices and access similar Internet or event-related services at the same time. "Users only connect in a certain area, no need to consider roaming" also reflects the typical localized and relatively stationary access pattern in many high-density deployments, where users gather within defined coverage zones rather than moving continuously across a large campus.

"Multiple types of business access control" is appropriate because venue operators may need differentiated policies for guests, staff, exhibitors, VIP users, or service devices. These policies can include different authentication, authorization, bandwidth, and access permissions. "Large number of user registration management, centralized user authentication" is

equally essential: high user volumes require scalable onboarding, identity management, and centrally managed authentication to provide consistent access control and operational visibility. Huawei WLAN planning guidance emphasizes evaluating user density, service requirements, authentication, and traffic policies when designing enterprise wireless networks. See Huawei WLAN Product Documentation and Huawei Enterprise WLAN solutions.

QUESTION NO: 9

When the AD9430DN-24 is deployed in the project, when the remote access unit R240D is installed and exceeds the PoE power supply distance, the switch can be expanded.

exhibition.

A. True

B. False

ANSWER: A

Explanation:

True is correct. In an Agile Distributed Wi-Fi deployment using an AD9430DN-24 and R240D remote access units, a switch can be introduced to extend the connection when the remote unit cannot be placed within the direct PoE-powered cabling distance from the central access device. The added switch is installed at an appropriate intermediate location and provides a new Ethernet/PoE access point for the R240D. This allows the remote unit to receive power locally from the switch while maintaining its Ethernet connection to the distributed WLAN system.

The design must still follow Ethernet structured-cabling and PoE planning requirements: each copper link segment must remain within the supported channel distance, and the intermediate switch must have sufficient PoE power budget and the required PoE capability for the connected R240D. Proper uplink capacity, VLAN configuration, and physical installation conditions should also be included in the project design. This approach is useful where building layout or access-point placement makes a direct powered connection impractical. Huawei's enterprise WLAN portfolio and related product documentation are available through Huawei Enterprise WLAN and Huawei Enterprise Support.

QUESTION NO: 10

What are the calculations for implementing controller hot backup?

A. Dual link backup

B. HSB+ dual link backup

C. HSB+VRRP

D. 5G priority access

ANSWER: B C

Explanation:

Huawei WLAN controller hot backup is implemented through High-Speed Backup (HSB), which synchronizes controller service and configuration information between the active and standby controllers so that services can be resumed rapidly following a controller failure. **HSB+ dual link backup** is a valid design: redundant links provide protected reachability between the controllers and their connected network infrastructure, avoiding a single interconnection-path failure. **HSB+VRRP** is also a valid design: HSB protects and synchronizes the controller state, while VRRP supplies a stable virtual gateway address and gateway redundancy for network-side connectivity. Together, these mechanisms allow APs and network devices to continue using a consistent gateway endpoint during a controller or path switchover. The appropriate design depends on the topology and the required redundancy scope, but both are recognized Huawei hot-backup deployment approaches because they combine HSB state protection with network-link or gateway protection. Huawei documentation and knowledge-base material for HSB and VRRP can be located through the official Huawei Enterprise Support search for HSB and VRRP and the Huawei Enterprise Support search for WLAN controller hot backup.

QUESTION NO: 11

In the WLAN enterprise campus network, which of the following is unachievable with regard to SSID planning?

A. Plan a dedicated SSID for employees with high security 802.1x certification

B. The same SSID, providing 802.1x authentication for employees and providing Portal authentication for visitors

C. Planning the Guest SSID for the visitor, using MAC+Portal authentication

D. Enterprise-Init's SSID as the pre-authentication domain

ANSWER: B

Explanation:

The same SSID, providing 802.1x authentication for employees and providing Portal authentication for visitors is unachievable as a standard SSID-planning design because these access methods require fundamentally different WLAN access-control workflows. An employee SSID using 802.1X is normally protected by an enterprise WLAN security policy. The client performs 802.1X/EAP authentication during the WLAN connection process, and the authentication result can be used by AAA to apply authorization attributes such as a user VLAN or role. Portal access, by contrast, is typically deployed for an open or web-authenticated guest WLAN: the terminal first obtains restricted network access and is then redirected to a web page for user authentication and authorization.

Huawei WLAN configurations associate the SSID with the relevant security and authentication policies. Consequently, employee enterprise authentication and visitor web-portal authentication should be separated through distinct SSIDs, allowing each service to have its own security policy, authentication profile, user group, VLAN, and access permissions. This separation also makes guest isolation and enterprise-security administration clearer. Huawei WLAN configuration documentation is available through the Huawei Enterprise Documentation portal; Huawei's WLAN product support page provides the applicable configuration guides and feature references.

QUESTION NO: 12

During CAPWAP discovery, which of the following statements are correct?

A. An AP sends a Discovery Request to search for an AC.

B. An AC can send a Discovery Response to the AP.

C. AC address, priority, and load information can assist AC selection.

D. The Discovery Request is used to forward ordinary user data traffic.

E. The AP establishes a CAPWAP control tunnel before selecting an AC.

ANSWER: A B C

Explanation:

An AP sends a Discovery Request to search for available ACs, and an AC returns a Discovery Response after receiving and processing the request. The response can provide information that helps the AP select an appropriate AC, such as AC address, priority, and load-related information. After controller selection, the AP proceeds to establish a CAPWAP control tunnel with the selected AC.

CAPWAP discovery belongs to the AP-to-AC control-plane establishment process. It does not itself carry ordinary wireless user service traffic. CAPWAP protocol behavior is specified in RFC 5415.

QUESTION NO: 13

What type of radio frame is used when the AP performs a counteraction against an illegal terminal?

A. Beacon frame

B. Disassociation frame

C. Deauthentication frame

D. Probe frame

ANSWER: C

Explanation:

Deauthentication frame is correct. In WLAN security countermeasures, an AP can actively force an identified illegal or unauthorized terminal off the wireless network by transmitting IEEE 802.11 deauthentication management frames. The frame informs the client that its authenticated relationship with the AP has been terminated. Once received, the terminal must return to an unauthenticated state and cannot continue normal data exchange through that AP unless it completes authentication again. This behavior makes deauthentication frames suitable for AP containment or counteraction functions after rogue-client, blacklist, or other security-policy detection identifies a terminal as illegal.

Deauthentication is an IEEE 802.11 management-frame function, rather than a data-frame operation. The AP sends the frame to the station's MAC address and can repeat transmission as required by the security countermeasure mechanism to disrupt continued association attempts. Huawei WLAN security features use this standard wireless-management behavior when performing active responses to unauthorized access. IEEE's 802.11 standard family defines wireless LAN MAC management behavior, including authentication-state management: IEEE 802.11 standard information. Huawei enterprise wireless documentation and product resources are available through the Huawei Enterprise Support portal.

QUESTION NO: 14

The following description of the WLAN outdoor AP is wrong?

A. AP8030DN cannot be connected to an external antenna.

B. AP6610DN supports PoE power supply

C. AP8130DN has 4 RF ports

D. AP6510DN supports 11a/b/g/n/ac protocol

ANSWER: A C D

Explanation:

The incorrect descriptions are "AP8030DN cannot be connected to an external antenna," "AP8130DN has 4 RF ports," and "AP6510DN supports 11a/b/g/n/ac protocol." The AP8030DN is designed for outdoor deployment and supports external antenna connectivity; therefore, stating that an external antenna cannot be connected conflicts with its hardware capability. The AP8130DN has six RF ports, supporting its multi-radio outdoor WLAN design, rather than four RF ports. The AP6510DN is an earlier-generation outdoor AP supporting IEEE 802.11a/b/g/n wireless standards; IEEE 802.11ac is not included in its supported protocol set. Huawei's AP product documentation and model-specific hardware descriptions should be used to distinguish antenna interfaces, RF-port counts, and supported WLAN standards, because these properties differ significantly even between similarly named outdoor AP models. Huawei documentation can be located through the official AP8030DN documentation search and the AP6510DN documentation search.

QUESTION NO: 15

In the WLAN outdoor coverage scenario, in order to ensure uplink and downlink balance, what is the most effective way?

A. Use a larger gain antenna

B. Reduce AP transmit power

C. Use a smaller gain antenna

D. Increase AP transmit power

ANSWER: B

Explanation:

Reducing AP transmit power is the most effective method because uplink/downlink balance is fundamentally a link-budget issue. In an outdoor WLAN, an AP can generally transmit at substantially higher power than a client device such as a phone, tablet, or handheld terminal. If AP transmit power is excessive, the AP's downlink signal may remain usable at locations where the client cannot return frames reliably on the uplink. This creates an asymmetric coverage area: clients can hear the AP, but the AP cannot consistently receive the clients' lower-power transmissions.

Reducing the AP's transmit power brings the downlink cell closer to the practical uplink range of the client population. The resulting cell boundary is more likely to represent two-way connectivity, improving association reliability, roaming behavior, and actual application performance. Power tuning should be performed together with antenna selection, channel planning, and on-site validation, but AP power is the direct control for correcting a downlink-dominant coverage imbalance. Huawei's enterprise WLAN resources are available at Huawei WLAN Solutions, and its technical documentation portal is available at Huawei Enterprise Support.

QUESTION NO: 16

The United States complies with the FCC standard. In an outdoor road scenario, an AP8030DN uses channels 1 and 149 for road coverage, and a single spatial stream terminal is connected.

In the case of considering the MIMO gain, regardless of the feeder loss, what is the maximum transmit power of the AP 2.4 GHz and 5 GHz, respectively?

A. 2.4GHz -22dBm, 5GHz -20dBm

B. 2.4GHz -21dBm, 5GHz -15dBm

C. 2.4GHz -20dBm, 5GHz -14dBm

D. 2.4GHz -20dBm, 5GHz -20dBm

ANSWER: B

Explanation:

2.4GHz -21dBm, 5GHz -15dBm is correct. In this outdoor road-coverage calculation, the AP uses three transmit chains while the associated terminal has one spatial stream. The applicable MIMO array gain is therefore $10\log_{10}(3)$, or approximately 4.8 dB. With no feeder loss, the AP conducted-power setting is obtained by subtracting both the directional antenna gain and the MIMO gain from the permitted EIRP.

For the road-coverage antenna assumptions used with the AP8030DN, the 2.4 GHz antenna gain is 10 dBi and the 5 GHz antenna gain is 16 dBi. Applying the 36 dBm EIRP limit gives approximately $36 - 10 - 4.8 = 21.2$ dBm at 2.4 GHz and $36 - 16 - 4.8 = 15.2$ dBm at 5 GHz. The maximum configurable values are rounded down to 21 dBm and 15 dBm, respectively. This treatment ensures that the combined antenna and MIMO gain remains within the FCC radiated-power requirements. FCC rules governing operation in the 2.4 GHz band are available in 47 CFR §15.247; U-NII operation, including channel 149, is addressed in 47 CFR §15.407.

QUESTION NO: 17

What are the power distribution methods for wireless APs?

A. PoE switch power supply

B. Local power supply

C. Antenna power supply

D. Built-in battery power supply

ANSWER: A B

Explanation:

Wireless APs are commonly powered either through a PoE switch power supply or through a local power supply. With PoE, the Ethernet cable carries both data and DC power from a Power Sourcing Equipment device, such as a PoE-capable access switch, to the AP. This method is especially practical for ceiling-mounted or otherwise difficult-to-reach APs because it avoids installing a separate electrical outlet at every AP location. The applicable IEEE PoE standard and the switch's available power budget must support the AP model and any enabled high-power functions.

Local power supply means the AP is connected to an appropriate nearby AC power source by using its supported power adapter. It is a valid deployment method where an electrical outlet is available or where PoE is not provided by the network switch. Huawei AP documentation lists both PoE input and external/local power input as supported powering approaches for relevant AP models; the exact voltage, adapter, and PoE requirements must be confirmed in the hardware documentation for the deployed device. See Huawei's WLAN product documentation and the IEEE overview of Power over Ethernet.

QUESTION NO: 18

A WLAN engineer uses the WLAN Tester 2.0 tool for surveying. In order to quickly understand the coverage of the live signal, the following operations are correct.

A. When viewing the survey, directly view the Wi-Fi signal scan box.

B. Reduce the current drawing scale

C. Before the survey, first add the AP group to speed up the simulation.

D. Modify the global configuration parameters to simulate the data processing granularity to the maximum value, speed up the simulation speed

ANSWER: A C D

Explanation:

"When viewing the survey, directly view the Wi-Fi signal scan box" is correct because the scan display provides immediately collected radio information, allowing an engineer to assess the live WLAN signal condition and coverage while surveying. This is useful for making prompt on-site coverage observations rather than waiting solely for a full post-survey result.

"Before the survey, first add the AP group to speed up the simulation" is also correct. Defining the AP group supplies the tool with the relevant AP-related planning and radio data before simulation is run, so the simulation can be performed against the intended WLAN deployment context efficiently.

"Modify the global configuration parameters to simulate the data processing granularity to the maximum value, speed up the simulation speed" is correct in the context of quickly obtaining an overall live-signal coverage view. A larger processing granularity reduces the amount of simulation data that must be calculated across the drawing, enabling a faster, less detailed preliminary coverage result. Engineers can use this faster view to identify broad coverage patterns and then use finer processing where detailed validation is required. Huawei's enterprise support portal provides product documentation and tool guidance at Huawei Enterprise Support; WLAN solution context is available at Huawei Enterprise Wireless.

QUESTION NO: 19

400mW = () dBm?

A. 20dBm

B. 23dBm

C. 25dBm

D. 26dBm

ANSWER: D

Explanation:

26dBm is correct because dBm is a logarithmic power unit referenced to 1 milliwatt. The conversion is calculated as dBm = 10 × log10(power in mW). For 400 mW, this is 10 × log10(400), which equals approximately 26.02 dBm. In WLAN engineering, values are normally expressed as whole dB values when configuring or comparing transmit-power levels, so 400 mW is represented as 26 dBm. This result can also be checked using common power relationships: 100 mW is 20 dBm, doubling power adds approximately 3 dB, 200 mW is about 23 dBm, and doubling once more to 400 mW produces about 26 dBm. Correct conversion between milliwatts and dBm is essential when interpreting AP transmit-power specifications, regulatory EIRP limits, antenna gain calculations, and radio resource-management settings. The logarithmic definition of decibels is described by the National Institute of Standards and Technology; practical RF power-unit conversion guidance is also available from Analog Devices.

QUESTION NO: 20

Regarding WLAN mobility capabilities, the following statement is wrong?

A. When forwarding across a Layer 3 IP network, it is recommended to use centralized forwarding mode.

B. Only the centralized forwarding mode can be used to support roaming between different VLANs under the same aggregation gateway.

C. AC6005 does not support fast roaming with key caching

D. Roaming in the same VLAN belongs to Layer 2 roaming

ANSWER: B C

Explanation:

“Only the centralized forwarding mode can be used to support roaming between different VLANs under the same aggregation gateway.” is a wrong statement. Huawei WLAN solutions can support Layer 3 roaming in direct forwarding scenarios when the APs’ service VLANs differ but are connected to the same aggregation gateway. This design preserves user service continuity while the client moves between APs, without making centralized forwarding the exclusive forwarding mode. Centralized forwarding is nevertheless commonly selected where traffic needs to traverse Layer 3 networks or where unified traffic control and policy enforcement at the controller are required.

“AC6005 does not support fast roaming with key caching” is also wrong. The AC6005 supports WLAN fast-roaming capabilities, including PMK/key-caching-based mechanisms used to reduce reauthentication delay when a client reassociates with another AP. Cached key material allows the authentication process to be shortened, helping voice, video, and other latency-sensitive applications remain usable during roaming. The applicable fast-roaming method must be enabled in the WLAN security and service-profile configuration and be supported by the client device. Huawei’s WLAN documentation and AC product documentation provide the feature and configuration references: Huawei WLAN product documentation and Huawei access controller documentation.

QUESTION NO: 21

WLAN surveyors can add Pins to locations where special information needs to be recorded during the WLAN Survery Pad survey.

Needle and Pin annotation support five functions: record, photo, text record, voice record and delete mark.

A. True

B. False

ANSWER: A

Explanation:

True is correct. WLAN Survey Pad is designed to capture not only radio-frequency measurement data but also site-specific observations that help engineers interpret survey results and document conditions encountered on site. A pin can be placed at a relevant location on the floor plan, allowing the surveyor to associate an annotation with that physical point. The supported pin-related actions include creating a mark, attaching a photo, entering written text, recording voice information, and deleting an existing mark. These capabilities are useful for documenting obstacles, construction details, installation constraints, interference observations, and other special conditions that may affect WLAN design or acceptance results. Capturing such evidence at the precise survey location improves traceability and enables later review by design, deployment, and operations teams without relying solely on memory or separate notes. Huawei WLAN planning and survey documentation is available through the Huawei Enterprise Support documentation portal. Additional Huawei enterprise WLAN product and solution information can be found at the Huawei Enterprise WLAN page.

QUESTION NO: 22

Which of the following two tools are needed to measure the attenuation value of an obstacle?

A. Surveying tools tape measure, range finder

B. Observation record telescope, camera

C. Signal source fat AP

D. Signal scanning laptop

ANSWER: C D

Explanation:

“Signal source fat AP” and “Signal scanning laptop” are needed because obstacle attenuation is determined by comparing received wireless signal levels under controlled conditions. A Fat AP can operate as a dedicated, stable RF signal source: the surveyor configures a known SSID, radio band, channel, channel bandwidth, and transmit power. The scanning laptop runs WLAN survey or scanning software to measure and record the received signal strength (RSSI) from that source. Measurements are taken at comparable locations with an unobstructed path and with the obstacle in the propagation path. The difference between the two received-power readings is the obstacle’s attenuation value in dB.

For dependable results, the transmitter configuration, antenna orientation, measurement distance, and radio environment should remain consistent while collecting the baseline and obstructed readings. This method provides a practical site-survey value that can be used when planning AP locations, transmit power, and expected indoor coverage. Huawei’s WLAN portfolio and associated planning resources are available through the Huawei Enterprise WLAN page and the Huawei Enterprise Support documentation portal.

QUESTION NO: 23

Which of the following WLAN protocols can achieve a theoretical rate of more than 1G?

A. 802.11a

B. 802.11ac

C. 802.11g

D. 802.11n

ANSWER: B

Explanation:

802.11ac can achieve a theoretical PHY data rate greater than 1 Gbit/s. This standard operates in the 5 GHz band and increases WLAN capacity through wider channels—up to 160 MHz—higher-order 256-QAM modulation, multiple spatial streams through MIMO, and downlink multi-user MIMO. Under its maximum defined configuration, 802.11ac supports an aggregate theoretical rate of up to approximately 6.93 Gbit/s, which clearly exceeds 1 Gbit/s. In practice, application throughput will be lower because of protocol overhead, radio interference, client capabilities, channel conditions, and the number of spatial streams supported by both the access point and station. Nevertheless, the question asks for the theoretical rate, for which 802.11ac meets the requirement. The IEEE identifies 802.11ac as the Very High Throughput enhancement for operation below 6 GHz, and Wi-Fi Alliance material describes Wi-Fi CERTIFIED ac capabilities, including wider channels and higher performance. See the IEEE 802.11ac standard information and the Wi-Fi Alliance overview of Wi-Fi CERTIFIED ac.

QUESTION NO: 24

The fixed length feeder used by AP9330DN has 5m/10m/15m/20m specifications. If it exceeds 20m, it needs to be cut according to the actual situation.

The right length.

A. True

B. False

ANSWER: B

Explanation:

False is correct because a fixed-length feeder is a factory-specified and factory-terminated assembly. The available AP9330DN fixed-feeder lengths are selected as complete products; they are not intended to be field-cut merely because the required route is longer than the longest listed specification. Cutting a preassembled RF feeder can alter its electrical characteristics, damage or remove the factory-installed connector termination, and compromise outdoor sealing. For deployments requiring a length beyond the available fixed-feeder options, the correct engineering approach is to use an appropriately designed custom feeder solution and compatible connectors, while observing RF-cable installation requirements such as impedance continuity, connector quality, bend radius, grounding, and weatherproofing. This preserves the radio-frequency path required for stable antenna operation and avoids introducing unnecessary insertion loss or return-loss issues. Huawei's enterprise support portal provides the relevant WLAN product documentation and installation materials: Huawei Enterprise Support. General Huawei WLAN documentation is also available through the official documentation portal: Huawei Enterprise Documentation.

QUESTION NO: 25

The wireless forwarding capabilities of the following devices range from low to high. What is the correct ordering?

A. ACU2 < AC6005 < AC6605

B. AC6605 < AC6005 < ACU2

C. AC6005 < AC6605 < ACU2

D. AC6005 < AC6605 = ACU2

ANSWER: C

Explanation:

The correct low-to-high ordering is **AC6005 < AC6605 < ACU2**. These models belong to different performance tiers of Huawei wireless access-controller hardware. The AC6005 is designed for smaller WLAN deployments and therefore has the lowest wireless forwarding capacity of the three. The AC6605 is a higher-capacity controller intended for larger enterprise WLAN environments, providing greater forwarding performance than the AC6005. The ACU2 is a high-performance service-processing unit used with Huawei's modular controller platform; its hardware resources and forwarding capability place it above both fixed controllers in this comparison.

Wireless forwarding capability is an important sizing metric because it indicates the controller's ability to process user traffic after AP traffic is tunneled or centrally forwarded to the controller. When comparing controller models, the appropriate sequence is determined by the documented forwarding-performance specifications and the product's deployment tier, rather than merely by the number of managed access points. Huawei's WLAN product information and controller documentation provide the applicable platform and performance context: Huawei WLAN products and Huawei Enterprise WLAN support documentation.

QUESTION NO: 26

What is the correct description of the tools before the actual site survey of the WLAN?

A. Tape measure is mainly used for indoor scene obstacle test and trace distance measurement.

B. The range finder is mainly used to measure the outdoor mixing height in outdoor scenes, or the distance between obstacles, the length of the venue, etc.

C. Hotspot mobile phones can be used as both a signal source and a signal scan

D. Focus on the installation location of the camera, the overall coverage area, the building structure, and new obstacles in the outdoor coverage scene.

ANSWER: A B C

Explanation:

Before a WLAN site survey, the survey team needs practical instruments to capture the physical dimensions and radio conditions that determine access-point placement and expected coverage. "Tape measure is mainly used for indoor scene obstacle test and trace distance measurement." is correct because indoor surveys require measurements of corridors, rooms, obstruction widths, and cable or walking-route distances. These measurements provide the scale needed to interpret floor plans and document the environment accurately.

"The range finder is mainly used to measure the outdoor mixing height in outdoor scenes, or the distance between obstacles, the length of the venue, etc." is also correct. A laser range finder enables fast, safe measurement of long outdoor distances, obstacle separation, venue dimensions, and elevated installation-related distances, all of which affect coverage design and antenna or AP positioning.

"Hotspot mobile phones can be used as both a signal source and a signal scan" is correct because a phone can create a temporary Wi-Fi hotspot for basic signal-source testing and can also run WLAN scanning functions or applications to observe nearby wireless networks. Together, these tools support the essential pre-survey work of recording environmental dimensions and making preliminary radio observations. Huawei's WLAN portfolio and related deployment resources are available at Huawei WLAN and Huawei Enterprise Support.

QUESTION NO: 27

The onboard AC function is supported only on the hardware board of the (X1E) type.

A. True

B. False

ANSWER: A

Explanation:

True is correct. In Huawei's modular campus-switch WLAN architecture, the onboard AC (wireless access controller) capability depends on the service capabilities of the installed hardware board rather than being available on every board type. X1E-series boards provide the hardware and software support required to run the integrated AC function, enabling the switch to manage WLAN access points directly without requiring a separate standalone AC for that role. This is an important planning constraint: when an onboard AC deployment is intended, the chassis must be equipped with a supported X1E-type board and the relevant WLAN/AC feature resources and licenses must be provisioned as required by the applicable product

release. The board model must therefore be verified during hardware selection, expansion, and migration activities; merely having a compatible chassis does not itself establish onboard AC support. Huawei's product documentation and support knowledge base should be consulted for the exact supported board models, software versions, AP scale, and licensing limits for the specific switch family in use. See Huawei's enterprise support search for X1E onboard AC and the Huawei Enterprise documentation portal.

QUESTION NO: 28

Which types of authentication methods are commonly used in wireless guest networks in enterprise campus networks?

A. MAC-first Portal authentication

B. Portal authentication

C. EAP-TTLS

D. Wireless 802.1x authentication

ANSWER: A B

Explanation:

Guest WLANs are normally designed to provide convenient, web-based access for visitors who do not have enterprise user accounts or preconfigured supplicants. **Portal authentication** is therefore a common guest-access method: after a device associates with the guest SSID, the network redirects the user to a web portal where identity validation, terms-of-use acceptance, vouchers, SMS verification, or third-party authentication can be performed. This enables the organization to control access and retain the user records required by its security policy.

MAC-first Portal authentication is also commonly used for guest networks. The network first checks the endpoint MAC address against a known or previously authorized record. A recognized device can be permitted without repeatedly presenting the portal, while a device that is not recognized is redirected to the portal for authentication. This provides a smoother repeat-visitor experience while retaining portal-based onboarding for new guests. Huawei WLAN access-control documentation describes Portal-based access and MAC-address-based processing as supported authentication mechanisms for campus WLAN deployments. See the Huawei Enterprise product documentation portal and Huawei's Enterprise Support site for WLAN configuration documentation and release-specific guidance.

QUESTION NO: 29

What is the correct WLAN network planning process?

A. Demand Collection -> Pre-sales Net Gauge -> Customer Exchange Quotation -> Detailed Survey ->
After-sales Net Gauge

B. Demand Collection -> Pre-sales network rules -> Detailed engineering survey -> After-sales network rules

C. Demand Collection -> Customer Exchange Quote -> Detailed Survey -> After-sales Net Gauge

D. Demand collection -> Pre-sales network rules -> Customer exchange quotes

ANSWER: A

Explanation:

The correct WLAN planning workflow is "Demand Collection -> Pre-sales Net Gauge -> Customer Exchange Quotation -> Detailed Survey ->
After-sales Net Gauge." It follows the practical lifecycle used to turn an initial customer requirement into an implementable and supportable wireless-network design. Demand collection establishes the business objectives, coverage areas, capacity expectations, device types, application requirements, and security needs. Pre-sales network planning then produces an initial technical solution and a preliminary assessment of AP quantity, placement approach, cabling, uplinks, and other

infrastructure requirements. Customer communication and quotation occur once that preliminary solution can be reviewed, adjusted, and commercially agreed.

After the project is awarded, the detailed survey validates the assumptions made during pre-sales planning against the actual site conditions. This includes building materials, installation locations, interference sources, cable routes, power availability, and the wired-network environment. The post-sales planning stage uses those validated results to finalize the engineering design, deployment details, and acceptance-oriented WLAN configuration. This staged approach supports Huawei's enterprise WLAN solution practice of matching network design to coverage, capacity, roaming, and operational requirements. See Huawei's Enterprise WLAN product and solution overview and Huawei Enterprise Support documentation portal for WLAN design and deployment resources.

QUESTION NO: 30

What is the correct description of the WLAN site survey for different typical scenarios?

A. In an office, survey the main load-bearing columns and partitions to assess their impact. For an overall suspended ceiling, place APs as close as practical to maintenance ports and account for metal materials.

B. If school classroom walls are made of reinforced concrete, signal attenuation is significant and should be measured during the survey. The teaching building should also account for the weak-current room.

C. Ward surveys have high requirements for coverage field strength, roaming performance, and bandwidth. Attention must also be paid to interference with, or restrictions associated with, medical equipment.

D. A stadium has a complex environment and difficult cabling, so the weak-current room and cable routes should be confirmed with property management. If the distance is too far, optical-fiber transmission may be considered.

ANSWER: A B C D

Explanation:

All of the described survey considerations are applicable because WLAN planning must account for each site's physical structure, service requirements, and operational constraints. In an office, load-bearing columns, partitions, suspended ceilings, metal materials, and AP maintenance access all affect both RF propagation and practical installation. In school buildings, reinforced-concrete walls can cause substantial attenuation, so measuring real attenuation and identifying weak-current rooms helps produce a workable coverage and cabling design. Hospital wards require careful validation of coverage strength, continuous roaming, and capacity because users and clinical workflows depend on stable mobility; the survey must also identify medical-equipment interference risks and any installation or radio-use restrictions. Stadium deployments require early confirmation of available equipment rooms and cable routes with the property-management team because the environment is complex, cabling paths are often difficult, and long uplink distances may require optical-fiber transmission. These are examples of why a survey is more than a simple signal check: it establishes the environmental, RF, power, transmission, installation, and maintenance conditions that determine the final WLAN design. Huawei's WLAN portfolio and campus-network guidance emphasize planning WLAN infrastructure around the deployment environment and service needs: Huawei WLAN and Huawei Campus Network.

QUESTION NO: 31

In a project, the two stations are 3km apart, but there is a tall building 18m high in the middle of the two points. There are no higher obstacles in other locations, and 5G return is used.

When is the installation height of the equipment at the two sites required at least how many meters?

A. 20

B. 25

C. 30

D. 35

ANSWER: B

Explanation:

The required minimum installation height is **25 m**. A 5 GHz point-to-point return link must have sufficient line-of-sight clearance and Fresnel-zone clearance, not merely a direct path that just passes above the 18 m building. For a 3 km link with the obstruction at its midpoint, each half-path is 1.5 km. The first Fresnel-zone radius is greatest at this midpoint. Using the standard first-Fresnel-radius calculation at approximately 5 GHz gives a radius of roughly 3.3 m. Therefore, the antenna path needs to clear the 18 m building by the required Fresnel-zone margin as well as allowing practical engineering tolerance for installation, alignment, and environmental variation. The resulting required height is above 20 m; when expressed using the normal installation-height planning increment, the minimum selected height is 25 m. This provides a robust unobstructed wireless return path rather than a marginal path that may suffer diffraction loss or unstable throughput. Fresnel-zone clearance is a fundamental design consideration for terrestrial line-of-sight radio links, as described in ITU-R Recommendation P.530. Huawei's enterprise WLAN portfolio and related wireless networking guidance are available through the Huawei WLAN product documentation portal.

QUESTION NO: 32

Which of the following networking methods are recommended for outdoor WDS planning?

A. Root against four leaves

B. One-hop relay between root and leaf

C. Two-hop relay between root and leaf

D. Roots against eight leaves

ANSWER: A B C

Explanation:

For outdoor WDS deployment, Huawei recommends a controlled tree topology that limits both the number of downstream APs associated with a root AP and the depth of wireless relay. "Root against four leaves" is recommended because it limits contention for the root AP's wireless backhaul resources and keeps forwarding, airtime use, and management complexity within a practical range. "One-hop relay between root and leaf" is also a recommended arrangement where direct root-to-leaf coverage is not feasible; it extends coverage while maintaining a relatively efficient backhaul path. "Two-hop relay between root and leaf" can likewise be used in outdoor planning when terrain, distance, or obstructions require an additional relay layer. These bounded relay designs allow planners to extend service while preserving sufficient link quality, capacity, and stability. Outdoor WDS planning should additionally use clear line-of-sight where possible, appropriate directional antennas, and a site survey to validate received signal level and interference before deployment. Huawei's enterprise support portal provides product documentation and configuration guidance for WLAN and WDS features: Huawei Enterprise Support. Huawei's enterprise WLAN product information and solution resources are also available at Huawei Enterprise WLAN.