

CLCOR v1.1 (350-801) Practice Exam

Questions:

1. Based on the ITU G.114 Recommendation, Cisco recommends that one-way audio delay not exceed what value?

1. 30 ms
2. 1 ms
3. 150 ms
4. 214 ms

2. You're working on a collaboration design and need to connect your IP-based Cisco collaboration network out to the PSTN. Which of the following devices should be used to accomplish your goal?

1. SBC
2. Cisco Expressway
3. CUBE
4. Cisco IOS Gateway

3. What is the bandwidth of an ISDN BRI circuit's D channel?

1. 16 kbps
2. 32 kbps
3. 64 kbps
4. 128 kbps

4. What CUCM graphical interface allows you to update the CUCM server's NTP configuration?

1. Cisco Unified CM Administration
2. Cisco Unified Reporting
3. Cisco Unified Serviceability
4. Cisco Unified OS Administration

5. Which licensing model is most helpful when transitioning a Cisco Unified Communications network to the cloud?

1. Using a PAK
2. Cisco User Connect Licensing (CUCL)
3. Cisco Unified Workspace Licensing (CUWL)
4. Flex

6. What is the decimal value corresponding a DSCP PHB of EF?

1. 42
2. 44
3. 46
4. 48

7. What type of tone is generated when pressing a button on the keypad of a traditional touch-tone phone?

1. SF
2. DTMF
3. MFT
4. ESF

8. Identify the quality of service (QoS) mechanism that uses bits 7 and 8 of a ToS Byte.

1. WFQ
2. ECN
3. CB-WFQ
4. LLQ

9. When configuring Auto-Registration on a CUCM 12.5 cluster, which of the following is NOT a required configuration value in the "Cisco Unified CM Configuration" page?

1. T302 Timer
2. Universal Device Template
3. Universal Line Template
4. Ending Directory Number

10. Cisco's SRND design guide for Unified Communications networks recommends what CoS marking be used for the voice component of a video call?

- A. 3
- B. 4
- C. 5
- D. 6

11. Which of the following SIP Response Codes indicates a Redirection?

1. 180
2. 302
3. 404
4. 600

12. What MGCP gateway command tells a router to download its .xml configuration file from an MGCP server?

1. mgcp config
2. mgcp server [ip_address]
3. ccm-manager server [ip_address]
4. ccm-manager config

13. What high definition (HD) resolution is supported on a Cisco 8865 IP Phone?

1. 4k
2. 1080p
3. 720p
4. VGA

14. What does one Erlang represent?

1. One hour of phone usage
2. One busy hour user
3. One minute of phone usage
4. One percent call rejection during the busy hour

15. What Cisco CUCM utility can you use to import multiple Cisco IP Phones into a CUCM cluster?

1. RTMT
2. BAT
3. CAR
4. DNA

16. Which of the following is NOT a function that could be performed with a CUCM server's TFTP service?

1. Downloading an IP phone's configuration file
2. Upgrading an endpoint
3. Uploading the background images seen on an IP phone
4. Uploading a Cisco IP Phone's current configuration

17. According to the Nyquist Theorem, what is the minimum sampling rate for an audio stream whose highest frequency is 16 kHz?

1. 8,000 samples per second
2. 16,000 samples per second
3. 24,000 samples per second
4. 32,000 samples per second

18. In a CUCM route plan, what is the function of a Route List?

1. It contains an ordered list of Devices.
2. It contains an unordered list of Route Groups.
3. It contains an unordered list of Devices.
4. It contains an ordered list of Route Groups.

19. Identify the protocol used to communicate between a hardware media resource (such as a hardware conference bridge or a transcoding resource) in a Cisco IOS router and a CUCM server.

1. SIP
2. RTP
3. RTCP
4. SCCP

20. Identify the Role you should assign to a Microsoft Windows 2012r2 Server if you wish to use that server as an LDAP server to be used by a CUCM server.

1. Active Directory Certificate Services
2. Active Directory Domain Services
3. Active Directory Federation Services
4. Active Directory Rights Management Services

21. Which of the following contains a list of dialable destinations?

1. Partition
2. Location
3. Region
4. Calling Search Space

22. What interface serves as the main point of administration for a Cisco Webex deployment?

1. Webex Directory Connector
2. Webex App
3. Webex Control Hub
4. CUCM

23. Which of the following is NOT a primary component used with Webex Directory Connector?

1. Directory Synchronization Service
2. Instant Messaging and Presence (IM&P)
3. Control Hub
4. Directory Connector App

24. While you're on a phone call using a Cisco IP Phone, you receive another incoming call, so you place your original call on-hold. While you're on that call, someone else attempts to call your phone. However, they receive a busy signal. What is the Busy Trigger value of the line being used on your phone?

- A. 0
- B. 1
- C. 2
- D. 3

25. Identify the DHCP option that can inform a Cisco IP Phone of the TFTP address from which the phone can download a configuration file.

- 1. 150
- 2. 32
- 3. 189
- 4. 81

26. Identify the function of the "direct-inward-dial" command in dial peer configuration mode for a POTS dial peer.

- 1. To match the dial string of any outgoing call
- 2. To point to a CUCM server's IP address to which an incoming call can be forwarded
- 3. To suppress dial tone and forward an incoming call based on the originally dialed digits
- 4. To specify the voice port's location to which a call should be forwarded

27. Which of the following is NOT a feature of Cisco Expressway?

- 1. Firewall Traversal
- 2. Transcoding
- 3. MRA
- 4. NAT Traversal

28. In a CUCM cluster whose security mode is set to Mixed, what is used to protect signaling information between a Cisco IP Phone and a CUCM server?

1. IPsec
2. SRTP
3. TLS
4. SSH

29. Where can you NOT perform digit manipulation?

1. Route Pattern
2. Route Group
3. Route List – Route Group Details
4. Device

30. Which of the following is NOT a default CUCM Location?

1. Shadow
2. Phantom
3. CMLocal
4. Hub_None

31. Identify the CUCM Region setting that prioritizes a list of audio codecs to be negotiated between two sites over which a call is being setup, or within a single site for an intra-site call.

1. Audio Codec Preference Group
2. Audio Codec Preference List
3. Audio Codec Priority Group
4. Audio Codec Priority List

32. Which of the following is NOT a feature of Cisco Unity Express (CUE)?

1. Voicemail
2. MRA
3. Auto Attendant
4. IVR

33. What Cluster Security Mode value in a CUCM server's Enterprise Parameters indicates a cluster is enabled for security?

- A. 0
- B. 1
- C. 2
- D. 3

34. You provide your Google credentials to gain access to a third-party on-line store. Which of the following features supports that authorization process?

1. TACACS+
2. AAA
3. OAuth
4. IPsec

35. What is the name of a CUCM server's default Date/Time Group?

1. CMLocal
2. Default
3. Hub_None
4. Shadow

36. In a Cisco Unified Communications Manager (CUCM) cluster, what is the name given to the server that has a read/write copy of the cluster's database?

1. Publisher
2. Primary
3. Designated
4. Subscriber

37. You create a Route Pattern for local calls, where the pattern is 9.[2-9]XXXXXX. However, you want that single Route Pattern to be used by two locations (e.g. HQ and BR1) such that a caller at either location will be directed out of their local gateway (e.g. HQ-GW or BR1- GW) when calling a number that matches that Route Pattern. Which of the following features will meet this design requirement?

1. Standard Local Route List
2. Voice Translation Rule
3. Voice Translation Profile
4. Standard Local Route Group

38. You wish to install a Cisco call agent in a medium sized office containing 300 Cisco IP Phones. Which of the following is an appropriate choice for your design's call agent?

1. CUCME
2. CUBE
3. CUC
4. CUE

39. Which of the following is NOT a valid ISDN TON?

1. Subscriber
2. International
3. Long Distance
4. Unknown

40. A wildcard of [^1-3] in a Route Pattern configuration will match which of the following?

1. 1, 2, or 3
2. 0, 4, 5, 6, 7, 8, or 9
3. 2 or 3, but not 1
4. 1, but not 2 or 3

41. Which of the following protocols can inform a Cisco IP Phone of the voice VLAN to which it belongs?

1. XMPP
2. SDP
3. CDP
4. SIP

42. Which of the following is required for a SIP integration between a CUC server and a CUCM cluster?

1. voice mail ports that register using SCCP
2. a SIP gateway
3. a SIP proxy server
4. a SIP trunk

43. Which of the following is NOT a type of Cisco Unity Connection (CUC) call handler?

1. System
2. Attendant
3. Directory
4. Interview

44. A CUC server has a collection of default settings regarding the required strength of a password. Which of the following is not a default password requirement for a user?

1. the use of two-factor authentication (2FA)
2. minimum credential length of 6 characters
3. user must change password at next sign-in
4. trivial passwords not allowed

45. Which of the following can be specified in a Device Pool?

1. Cisco Unified CM Group
2. Media Resource Group
3. Phone NTP Reference
4. Partition

46. RTP Header Compression (cRTP) falls under which quality of service (QoS) category?

1. Link Efficiency
2. Traffic Conditioners
3. Congestion Avoidance
4. Queuing

47. What End User configuration option is used to assign a user to one or more Groups and Roles?

1. Access Control Group
2. Privilege Level
3. MRG
4. CSS

48. What CUCM feature contains a pattern (i.e., a dialable destination) used to match a dialed number and can then convert that dialed number into a different number?

1. Transformation Pattern
2. Translation Rule
3. Translation Pattern
4. Transformation Rule

49. In a cluster with a 1:1 redundancy model and with a capacity to register 40,000 Cisco IP Phones, how many Backup servers will you have?

1. 2
2. 4
3. 8
4. 16

50. Which of the following is NOT a primary feature of Cisco Webex?

1. Calling
2. Transcoding
3. Messaging
4. Meetings

51. Identify the Cisco Unified Communications device that supports the following features: (1) Session Control, (2) Security, (3) Interworking, and (4) Demarcation

1. CUCME
2. CUBE
3. CUC
4. IM&P

52. You wish to set the CUCM inter-digit timeout to 2 seconds. Which Service Parameter and value would you use?

1. Set the T301 Timer to 2
2. Set the T303 Timer to 2000
3. Set the T305 Timer to 2
4. Set the T302 timer to 2000

53. Within CUCM, what contains a listing of one or more Media Resource Groups (MRGs)?

1. Device Pool
2. CSS
3. MRGL
4. Cisco Unified CM Group

54. Identify the CUCM feature that influences Codec selection within a site.

1. Locations
2. Regions
3. CAC
4. LBM

55. Which CUCM service provides backup and restore services?

1. DRS
2. GSB
3. Tomcat
4. MoH

56. Using MQC to perform a router QoS configuration, what command allocates 512 kbps of priority bandwidth in an LLQ configuration?

1. bandwidth 512
2. priority 512
3. police 512
4. bandwidth 512000

57. What type of Route Pattern often points to a URI?

1. Circular Route Pattern
2. SCCP Route Pattern
3. Standard Local Route Pattern
4. SIP Route Pattern

58. You add a conference bridge resource to your CUCM cluster. However, you do not assign that resource to a Media Resource Group. Which IP phones in your cluster can access the conference bridge?

1. None of the IP phones
2. All of the IP phones
3. Only IP phones that have the NULL MRG in their MRGL
4. Only IP phones that have the NULL MRGL in their Device Pool

59. On a device (e.g. a router) running an SNMP agent, what structure contains Object Identifiers?

1. MIB
2. CEF
3. FIB
4. CAM

60. What quality of service (QoS) queuing mechanism has a priority queue?

1. WFQ
2. CB-WFQ
3. FIFO
4. LLQ

61. Under what CUCM configuration screen can you specify which trace files are collected by a CUCM cluster?

1. Cisco Unified OS Administration
2. Cisco Unified Reporting
3. Cisco Unified CM Administration
4. Cisco Unified Serviceability

62. When adding a device in Cisco's Webex Control Hub, which of the following is NOT an option for adding that device?

1. Multiple Cisco IP Phones
2. Restricted Usage
3. Shared Usage
4. Personal Usage

63. Which option from the CUCM Navigation drop-down menu would you select to enable or disable CUCM services?

1. Cisco Unified CM Administration
2. Disaster Recovery System
3. Cisco Unified Serviceability
4. Cisco Unified OS Administration

64. In an E.164 number, what comes after the leading plus sign?

1. Area Code
2. Country Code
3. Office Code
4. Subscriber Number

65. Identify the two types of Cisco Expressway servers.

1. Publisher and Subscriber
2. Primary and Secondary
3. Core and Edge
4. Central and Distributed

66. You are configuring various record types on a DNS server. Which record type resolves a hostname to a corresponding IPv6 address?

1. PTR
2. SRV
3. AAAA
- D. A

67. On a Cisco Catalyst 3750 Series switch, which output queue can be configured as a priority queue?

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

68. Your IP phone has received a digital certificate from the Communications Manager server during the TLS handshake. How can the phone verify that the certificate is legitimate and came from the server?

- A. By decrypting the certificate using the server's public key
- B. By decrypting the certificate using the server's private key
- C. By decrypting the certificate using the CA's private key
- D. By decrypting the certificate using the CA's public key

69. You are troubleshooting a failed call transfer in your SIP network. Which of the following is the most probable cause for the failure?

- A. The transferred call is using a different codec than the original call.
- B. The SIP timers are set too low, causing a delay in the transfer process.
- C. The dial plan prevents the transfer due to call permissions.
- D. The transferred call is using the same media resources as the original call.

Questions and Answers:

1. Based on the ITU G.114 Recommendation, Cisco recommends that one-way audio delay not exceed what value?

- A. 30 ms
- B. 1 ms
- C. 150 ms
- D. 214 ms

Answer: C

Explanation: While Cisco recommends that the interpacket arrival time (i.e. jitter) of voice packets not exceed 30 ms, Cisco's recommends that one-way audio delay not exceed 150 ms.

2. You're working on a collaboration design and need to connect your IP-based Cisco collaboration network out to the PSTN. Which of the following devices should be used to accomplish your goal?

- A. SBC
- B. Cisco Expressway
- C. CUBE
- D. Cisco IOS Gateway

Answer: D

Explanation: A Cisco IOS gateway is typically a Cisco IOS router that interconnects an IP-based telephony network to a traditional telephony network via an analog or digital connection.

3. What is the bandwidth of an ISDN BRI circuit's D channel?

- A. 16 kbps
- B. 32 kbps
- C. 64 kbps
- D. 128 kbps

Answer: A

Explanation: An ISDN Basic Rate Interface (BRI) circuit has one 16 kbps D channel and two 64 kbps B channels. An ISDN Primary Rate Interface (PRI) circuit based on a T1 has one 64 kbps D channel and 23 64 kbps B channels. An ISDN PRI based on an E1 has one 64 kbps D channel and 30 64 kbps B channels.

4. What CUCM graphical interface allows you to update the CUCM server's NTP configuration?

- A. Cisco Unified CM Administration
- B. Cisco Unified Reporting
- C. Cisco Unified Serviceability
- D. Cisco Unified OS Administration

Answer: D

Explanation: The Cisco Unified OS Administration interface is used to perform a variety of tasks on a CUCM server's underlying operating system. One of those tasks is updating the server's Network Time Protocol (NTP) settings, which were initially configured during the server's installation.

5. Which licensing model is most helpful when transitioning a Cisco Unified Communications network to the cloud?

- A. Using a PAK
- B. Cisco User Connect Licensing (CUCL)
- C. Cisco Unified Workspace Licensing (CUWL)
- D. Flex

Answer: D

Explanation: Flex licensing is most appropriate for Cisco Unified Communications networks transitioning to the cloud, because licensing can be used for cloud, on-premises, and hybrid deployments. CUCL and CUWL are categories of Smart Licensing. However, Cisco has announced the End-of-Life (EoL) for CUWL. Using a Product Authorization Key (PAK) is a legacy approach to licensing.

6. What is the decimal value corresponding a DSCP PHB of EF?

- A. 42
- B. 44
- C. 46
- D. 48

Answer: C

Explanation: The Differentiated Services Code Point (DSCP) decimal value for a Per-Hop Behavior (PHB) name of EF (Expedited Forwarding) is 46, which is 101110 in decimal. Note that if this DSCP value were intercepted by an IP Precedence-aware router, the router would interpret the EF marking as a 5, by examining just the three left-most bits in the ToS Byte of 101. This characteristic maintains a relatively high level of priority between the DSCP and IP Precedence environments.

7. What type of tone is generated when pressing a button on the keypad of a traditional touch-tone phone?

- A. SF
- B. DTMF
- C. MFT
- D. ESF

Answer: B

Explanation: Traditional touch-tone phones use Dual-Tone Multifrequency (DTMF) for address signaling (i.e. sending dialed digits). Specifically, a DTMF tone uses two simultaneously generated frequencies to indicate a dialed digit. However, some codecs, such as G.729, use a compression algorithm that distort DTMF tones such that the tones won't be understood by the far end equipment. In such situations, some form of "DTMF Relay" should be used to communicate those tones out-of-band (e.g. sending the dialed numbers as text rather than representing them audibly).

8. Identify the quality of service (QoS) mechanism that uses bits 7 and 8 of a ToS Byte.

- A. WFQ
- B. ECN
- C. CB-WFQ
- D. LLQ

Answer: B

Explanation: Explicit Congestion Notification (ECN) is an extension to the Weighted Random Early Detection feature, and it uses bits 7 and 8 of an IP header's Type of Service (ToS) Byte to request a sender to voluntarily slow down (i.e., reduce its TCP windows size), thus reducing the number of packet drops and TCP segment resends that might otherwise be required. WFQ, CB-WFQ, and LLQ, however, all various types of queuing mechanisms.

9. When configuring Auto-Registration on a CUCM 12.5 cluster, which of the following is NOT a required configuration value in the "Cisco Unified CM Configuration" page?

- A. T302 Timer
- B. Universal Device Template
- C. Universal Line Template
- D. Ending Directory Number

Answer: A

Explanation: In versions of CUCM prior to 10.0, there was no requirement to configure a Universal Device Template or Universal Line Template as part of an Auto-Registration configuration. However, those values, along with Starting and Ending Directory Number values, are now required. However, the Cisco Unified CM Configuration page does not have a configuration option for the T302 Timer.

10. Cisco's SRND design guide for Unified Communications networks recommends what CoS marking be used for the voice component of a video call?

- A. 3
- B. 4
- C. 5
- D. 6

Answer: B

Explanation: Even though a voice-only call has a recommended Class of Service (CoS) value of 5, the voice component of a video call should be marked with the same CoS value as the video.

11. Which of the following SIP Response Codes indicates a Redirection?

- A. 180
- B. 302
- C. 404
- D. 600

Answer: B

Explanation: A 100 Series Response Code indicates a Provisional condition. A 200 Series Response Code indicates a Successful condition. A 300 Series Response Code indicates a Redirection. A 400 Series Response Code indicates a Client Failure. A 500 Series Response Code indicates a Server Failure, and a 600 Series Response Code indicates a Global Failure.

12. What MGCP gateway command tells a router to download its .xml configuration file from an MGCP server?

- A. mgcp config
- B. mgcp server [ip_address]
- C. ccm-manager server [ip_address]
- D. ccm-manager config

Answer: D

Explanation: Although multiple configuration commands are available for an MGCP gateway running on a Cisco IOS router, two commonly used commands issued are: “ccm-manager config server [ip_address]” and “ccm-manager config”. The “ccm-manager config server [ip_address]” command tells the router the IP address from which it can download its .xml configuration file. Then, the “ccm-manager config” command instructs the router to go out to the previously defined IP address and download its MGCP configuration file.

13. What high definition (HD) resolution is supported on a Cisco 8865 IP Phone?

- A. 4k
- B. 1080p
- C. 720p
- D. VGA

Answer: C

Explanation: Although the Cisco 8865 IP Phone's graphical display only has a resolution of 800 x 480, the phone can transmit and receive 720p HD video.

14. What does one Erlang represent?

- A. One hour of phone usage
- B. One busy hour user
- C. One minute of phone usage
- D. One percent call rejection during the busy hour

Answer: A

Explanation: An Erlang is an hour of phone usage, while Grade of Service (GoS) is the percentage of calls that can be rejected during a phone system's busiest hour of the day.

15. What Cisco CUCM utility can you use to import multiple Cisco IP Phones into a CUCM cluster?

- A. RTMT
- B. BAT
- C. CAR
- D. DNA

Answer: B

Explanation: With Cisco's Bulk Administration Tool (BAT) you can populate a spreadsheet with information (e.g. MAC addresses and directory numbers) for multiple Cisco IP Phones. You can then export that spreadsheet to a CSV-formatted file. That file in combination with a phone model-specific Phone Template can be used by BAT to import all of the phones specified in the spreadsheet.

16. Which of the following is NOT a function that could be performed with a CUCM server's TFTP service?

- A. Downloading an IP phone's configuration file
- B. Upgrading an endpoint
- C. Uploading the background images seen on an IP phone
- D. Uploading a Cisco IP Phone's current configuration

Answer: D

Explanation: While a CUCM server's TFTP service can be used for such tasks as allowing a Cisco IP Phone to download its configuration file, upgrading endpoints, and uploading a background image to be used on a Cisco IP Phone, the TFTP service is not used for a Cisco IP Phone to upload its current configuration.

17. According to the Nyquist Theorem, what is the minimum sampling rate for an audio stream whose highest frequency is 16 kHz?

- A. 8,000 samples per second
- B. 16,000 samples per second
- C. 24,000 samples per second
- D. 32,000 samples per second

Answer: D

Explanation: The Nyquist Theorem (also known as the "Nyquist – Shannon Sampling Theorem") states that the minimum number of samples required to reproduce an analog waveform is twice the highest frequency being sampled. In this instance, the highest sampled frequency is given to be 16 kHz (i.e. 16,000 Hz). Therefore, the sampling rate would be: $(16,000 * 2)/\text{second}$.

18. In a CUCM route plan, what is the function of a Route List?

- A. It contains an ordered list of Devices.
- B. It contains an unordered list of Route Groups.
- C. It contains an unordered list of Devices.
- D. It contains an ordered list of Route Groups.

Answer: D

Explanation: A Route Group contains an unordered list of Devices. A Route List contains an ordered list of Route Groups, and a Route Pattern can point to a Route List.

19. Identify the protocol used to communicate between a hardware media resource (such as a hardware conference bridge or a transcoding resource) in a Cisco IOS router and a CUCM server.

- A. SIP
- B. RTP
- C. RTCP
- D. SCCP

Answer: D

Explanation: Cisco uses the Skinny Client Control Protocol (SCCP) to communicate between a Cisco IOS router providing a media resource and a CUCM server.

20. Identify the Role you should assign to a Microsoft Windows 2012r2 Server if you wish to use that server as an LDAP server to be used by a CUCM server.

- A. Active Directory Certificate Services
- B. Active Directory Domain Services
- C. Active Directory Federation Services
- D. Active Directory Rights Management Services

Answer: B

Explanation: An Lightweight Directory Access Protocol (LDAP) server can be used as a single repository for user information, allowing multiple network services (e.g. e-mail, file sharing, or logging into a Cisco IP Phone) to share a common user database. Although CUCM supports various LDAP servers, many installations use Microsoft's Active Directory. While you can install various Microsoft Active Directory roles in a Microsoft Windows 2012r2 server, the specific role that allows the server to act as an LDAP server for a CUCM deployment is the Active Directory Domain Services role.

21. Which of the following contains a list of dialable destinations?

- A. Partition
- B. Location
- C. Region
- D. Calling Search Space

Answer: A

Explanation: Partitions and Calling Search Spaces (CSSs) can be used to control which dialable destinations are allowed to be called by a device (e.g., an IP phone). A Partition is a list of dialable destinations. A CSS can contain one or more Partitions. Then, a CSS can be applied to a device, such as an IP Phone, and the Partitions contained in that CSS identify the dialable destinations the device is allowed to call.

22. What interface serves as the main point of administration for a Cisco Webex deployment?

- A. Webex Directory Connector
- B. Webex App
- C. Webex Control Hub
- D. CUCM

Answer: C

Explanation: The Webex Control Hub, available at <https://admin.webex.com>, acts as a central point of administration for most common Webex administrative tasks. The Webex Control Hub is cloud-based, eliminating the need to install a server (e.g., a Cisco Unified Communications Manager (CUCM) server) for administration.

23. Which of the following is NOT a primary component used with Webex Directory Connector?

- A. Directory Synchronization Service
- B. Instant Messaging and Presence (IM&P)
- C. Control Hub
- D. Directory Connector App

Answer: B

Explanation: Cisco's Webex Directory Connect allows a Microsoft Active Directory (AD) user directory to be synchronized with Webex in the cloud, eliminating the need to create duplicate user accounts for Webex users. The three main components of the Webex Directory Connector are: (1) Webex Control Hub: A single point of administration when you can configure single sign-on (SSO), (2) Directory Connector App: An application installed on a Microsoft Windows computer that belongs to a domain, and (3) Directory Synchronization Service: Queries a user directory and synchronizes users and groups on the directory server with Webex.

24. While you're on a phone call using a Cisco IP Phone, you receive another incoming call, so you place your original call on-hold. While you're on that call, someone else attempts to call your phone. However, they receive a busy signal. What is the Busy Trigger value of the line being used on your phone?

- A. 0
- B. 1
- C. 2
- D. 3

Answer: C

Explanation: The Busy Trigger value determines the number of simultaneous calls that can be on a line before a new incoming call to that line receives a busy signal. In this instance, a caller only receives a busy signaling after the line has two simultaneous calls (i.e. one active and one on-hold). Therefore, the Busy Trigger value is 2.

25. Identify the DHCP option that can inform a Cisco IP Phone of the TFTP address from which the phone can download a configuration file.

- A. 150
- B. 32
- C. 189
- D. 81

Answer: A

Explanation: DHCP option 150 provides the IP address of one or more TFTP servers a Cisco IP Phone can use to download a configuration file. Typically, the IP address of a TFTP server is the IP address of a CUCM server. Similar to option 150, you might instead use option 66. While option 150 provides the IP address (but not the name) for one or more TFTP servers, option 66 provides the IP address or name of a single TFTP server.

26. Identify the function of the “direct-inward-dial” command in dial peer configuration mode for a POTS dial peer.

- A. To match the dial string of any outgoing call
- B. To point to a CUCM server’s IP address to which an incoming call can be forwarded
- C. To suppress dial tone and forward an incoming call based on the originally dialed digits
- D. To specify the voice port’s location to which a call should be forwarded

Answer: C

Explanation: On an H.323 gateway, by default, a voice port receiving an incoming call will play dial tone to the caller. However, we commonly want a call coming into a voice port to be forwarded based on the originally dialed number without playing dial tone to the caller.

27. Which of the following is NOT a feature of Cisco Expressway?

- A. Firewall Traversal
- B. Transcoding
- C. MRA
- D. NAT Traversal

Answer: B

Explanation: Cisco’s Mobile and Remote Access (MRA) feature is offered by Cisco Expressway, and it allows an Internet-based endpoint to traverse both firewall and NAT boundaries as the endpoint sends signaling information into an enterprise network. However, transcoding (e.g. converting between codecs) requires Digital Signal Processors (DSPs) and is not a feature offered by Cisco Expressway.

28. In a CUCM cluster whose security mode is set to Mixed, what is used to protect signaling information between a Cisco IP Phone and a CUCM server?

- A. IPsec
- B. SRTP
- C. TLS
- D. SSH

Answer: C

Explanation: Transport Layer Security (TLS) is the successor to Secure Sockets Layer (SSL), and it is used to protect signaling information between a Cisco IP Phone and a CUCM server when the cluster mode is set to Mixed. Secure Real-time Transport Protocol (SRTP), however, is used to protect media between Cisco IP Phones in a Mixed mode cluster.

29. Where can you NOT perform digit manipulation?

- A. Route Pattern
- B. Route Group
- C. Route List – Route Group Details
- D. Device

Answer: B

Explanation: Although digit manipulation can be performed at the Route Pattern, Route List – Route Group Details, and Device levels, the Route Group configuration screen does not offer any digit manipulation options.

30. Which of the following is NOT a default CUCM Location?

- A. Shadow
- B. Phantom
- C. CMLocal
- D. Hub_None

Answer: C

Explanation: CUCM Locations can be used for Call Admission Control (CAC), making sure a call doesn't exceed available bandwidth between two sites. By default, CUCM has the Hub_None, Phantom, and Shadow Locations. The Hub_None location is the default location for the CUCM server, while the Phantom and Shadow Locations can be used for CAC between CUCM clusters.

31. Identify the CUCM Region setting that prioritizes a list of audio codecs to be negotiated between two sites over which a call is being setup, or within a single site for an intra-site call.

- A. Audio Codec Preference Group
- B. Audio Codec Preference List
- C. Audio Codec Priority Group
- D. Audio Codec Priority List

Answer: B

Explanation: During call setup, a CUCM Region influences codec selection between sites or within a site. The amount of bandwidth specified for inter-Region or intra-Region communication determines the maximum amount of bandwidth (payload only) that can be consumed by a codec. However, several codecs might have a bandwidth consumption that do not exceed that maximum bandwidth amount. Therefore, an Audio Codec Preference List can be used to prioritize codec selection among those qualifying codecs.

32. Which of the following is NOT a feature of Cisco Unity Express (CUE)?

- A. Voicemail
- B. MRA
- C. Auto Attendant
- D. IVR

Answer: B

Explanation: Cisco Unity Express (CUE) does not offer the Mobile and Remote Access (MRA) feature. Instead, Cisco Expressway provides the MRA feature in a Cisco Unified Communications network.

33. What Cluster Security Mode value in a CUCM server's Enterprise Parameters indicates a cluster is enabled for security?

- A. 0
- B. 1
- C. 2
- D. 3

Answer: B

Explanation: A Cluster Security Mode value of 0 indicates a cluster is in Non-Secure Mode, while a Cluster Security Mode value of 1 indicates a cluster is in Mixed Mode, which enables security features for the cluster.

34. You provide your Google credentials to gain access to a third-party on-line store. Which of the following features supports that authorization process?

- A. TACACS+
- B. AAA
- C. OAuth
- D. IPsec

Answer: C

Explanation: OAuth (Open Authorization) allows you to provide authentication credentials to an OAuth server (such as OAuth servers offered by Google and Facebook) to be authorized by another system (e.g., an on-line store). In the CUCM environment, OAuth can be configured for SIP phones, such that only authorized devices are allowed to place or receive SIP calls.

35. What is the name of a CUCM server's default Date/Time Group?

- A. CMLocal
- B. Default
- C. Hub_None
- D. Shadow

Answer: A

Explanation: A CUCM server's Date/Time Group specifies information such as Time Zone, Separator (for month, day, and year on a phone's display), Date Format, and Time Format (either 12-hour or 24-hour format). The default Date/Time Group is named CMLocal.

36. In a Cisco Unified Communications Manager (CUCM) cluster, what is the name given to the server that has a read/write copy of the cluster's database?

- A. Publisher
- B. Primary
- C. Designated
- D. Subscriber

Answer: A

Explanation: A CUCM Publisher server maintains a read/write copy of a cluster's database and replicates that database (along with any updates) to CUCM Subscriber servers within a cluster. Note that a CUCM Publisher server is not necessarily a CUCM Primary server. Specifically, a CUCM Primary server is a server within a cluster with which devices (e.g. Cisco IP Phones) will register. If the Primary server goes down, registered devices will attempt to reregister with a CUCM Backup server (if configured).

37. You create a Route Pattern for local calls, where the pattern is 9.[2-9]XXXXXX. However, you want that single Route Pattern to be used by two locations (e.g. HQ and BR1) such that a caller at either location will be directed out of their local gateway (e.g. HQ-GW or BR1- GW) when calling a number that matches that Route Pattern. Which of the following features will meet this design requirement?

- A. Standard Local Route List
- B. Voice Translation Rule
- C. Voice Translation Profile
- D. Standard Local Route Group

Answer: D

Explanation: A Standard Local Route Group (often abbreviated as "SLRG") can be thought of as a variable, where the value of that variable is a Route Group specified in a Device Pool. For example, imagine HQ Phone 1's Device Pool is HQ, and BR1 Phone 1's Device Pool is BR1. You could update the HQ Device Pool to say its SLRG points to a Route Group containing a gateway local to HQ, while you also update the BR1 Device Pool such that its Device Pool has an SLRG of a Route Group containing a gateway local to BR1. With such a configuration, a phone at either location can dial a number local to them and be routed out of their local gateway, based on the Route Group referenced by that phone's SLGR, as defined in the phone's Device Pool.

38. You wish to install a Cisco call agent in a medium sized office containing 300 Cisco IP Phones. Which of the following is an appropriate choice for your design's call agent?

- A. CUCME
- B. CUBE
- C. CUC
- D. CUE

Answer: A

Explanation: Currently, a virtualized Cisco Unified Communications Manager Express (CUCME) can support a maximum of 450 device registrations. Additionally, the CUBE interconnects VoIP call legs and is not a call agent. Similarly, both the CUC and CUE are voice messaging solutions and do not act as call agents.

39. Which of the following is NOT a valid ISDN TON?

- A. Subscriber
- B. International
- C. Long Distance
- D. Unknown

Answer: C

Explanation: Although ISDN has Type of Number (TON) values of Unknown, Subscriber, National, and International, there is not a TON of Long Distance.

40. A wildcard of [^1-3] in a Route Pattern configuration will match which of the following?

- A. 1, 2, or 3
- B. 0, 4, 5, 6, 7, 8, or 9
- C. 2 or 3, but not 1
- D. 1, but not 2 or 3

Answer: B

Explanation: Route Patterns support a variety of wildcards and special characters used to match dial strings. Open and close square brackets can be used to match a range of digits (in the range of 0 – 9.) For example, a wildcard of [4-6] would match a number of 4, 5, or 6. However, if the range is preceded by a “^” symbol (known as a “circumflex” or a “caret”), then the range is

identifying a range of numbers to not match. Therefore, a pattern of [^1-3] matches any number in the range of 0 – 9 with the exception of 1, 2, and 3. Therefore, the [^1-3] wildcard would match a number of 0, 4, 5, 6, 7, 8, or 9.

41. Which of the following protocols can inform a Cisco IP Phone of the voice VLAN to which it belongs?

- A. XMPP
- B. SDP
- C. CDP
- D. SIP

Answer: C

Explanation: The Cisco Discovery Protocol (CDP) is a Cisco proprietary Layer 2 protocol that provides information about adjacent CDP-speaking devices. CDP version 2 also has the ability to inform a Cisco IP Phone of the voice VLAN to which the phone belongs.

42. Which of the following is required for a SIP integration between a CUC server and a CUCM cluster?

- A. voice mail ports that register using SCCP
- B. a SIP gateway
- C. a SIP proxy server
- D. a SIP trunk

Answer: D

Explanation: There are two approaches to integrating a Cisco Unity Connection (CUC) server with a Cisco Unified Communications Manager (CUCM) cluster: (1) an SCCP integration or (2) a SIP integration. With an SCCP integration, the CUC server has voice mail ports that register with the CUCM cluster using the Skinny Client Control Protocol (SCCP), similar to how a SCCP-speaking IP phone would register with CUCM. However, a SIP integration interconnects the CUC and CUCM environments by using a SIP trunk.

43. Which of the following is NOT a type of Cisco Unity Connection (CUC) call handler?

- A. System
- B. Attendant
- C. Directory
- D. Interview

Answer: B

Explanation: Although a Cisco Unity Connection (CUC) server can be configured to act as an automated attendant (i.e. to answer calls coming into the organization without having a person answer those calls), that function is performed by the System call handler. However, there isn't a specific "Attendant" call handler.

44. A CUC server has a collection of default settings regarding the required strength of a password. Which of the following is not a default password requirement for a user?

- A. the use of two-factor authentication (2FA)
- B. minimum credential length of 6 characters
- C. user must change password at next sign-in
- D. trivial passwords not allowed

Answer: A

Explanation: By default, a CUC user's password must be changed when the user logs in. Additionally, that password must contain a minimum of 6 characters, and trivial passwords are not allowed. However, 2FA is not a password requirement.

45. Which of the following can be specified in a Device Pool?

- A. Cisco Unified CM Group
- B. Media Resource Group
- C. Phone NTP Reference
- D. Partition

Answer: A

Explanation: A Device Pool contains a collection of settings that can be applied to an IP phone, eliminating the need to individually configure each of those settings on multiple phones. Of the options listed, only the Cisco Unified CM Group can be specified in a Device Pool.

46. RTP Header Compression (cRTP) falls under which quality of service (QoS) category?

- A. Link Efficiency
- B. Traffic Conditioners
- C. Congestion Avoidance
- D. Queuing

Answer: A

Explanation: Link Efficiency mechanisms, such as cRTP and Link Fragmentation and Interleaving (LFI), attempt to make the most efficient use of relatively limited WAN bandwidth.

47. What End User configuration option is used to assign a user to one or more Groups and Roles?

- A. Access Control Group
- B. Privilege Level
- C. MRG
- D. CSS

Answer: A

Explanation: When configuring an End User, you can add that user to one or more Access Control Groups. Then, after you click the Save button, the Roles associated with those Groups appear on the End User configuration screen.

48. What CUCM feature contains a pattern (i.e., a dialable destination) used to match a dialed number and can then convert that dialed number into a different number?

- A. Transformation Pattern
- B. Translation Rule
- C. Translation Pattern
- D. Transformation Rule

Answer: C

Explanation: In CUCM, the Translation Pattern feature contains a pattern (much like a Route Pattern), which can match a dialed number. Similar to a Route Pattern, the Translation Pattern

can be assigned to a Partition. However, unlike a Route Pattern, a Translation Pattern can take the dialed number and translate it into another number that can then be evaluated by a Route Pattern or another Translation Pattern.

49. In a cluster with a 1:1 redundancy model and with a capacity to register 40,000 Cisco IP Phones, how many Backup servers will you have?

- A. 2
- B. 4
- C. 8
- D. 16

Answer: B

Explanation: The maximum number of Cisco IP Phones that can register with a CUCM cluster is 40,000. To accommodate that number of Cisco IP Phones, the cluster must have four Primary servers, each with a capacity of 10,000 Cisco IP Phone registrations. Also, with a 1:1 redundancy model, you must have a dedicated Backup server for each Primary server. Therefore, such a cluster would have four Backup servers.

50. Which of the following is NOT a primary feature of Cisco Webex?

- A. Calling
- B. Transcoding
- C. Messaging
- D. Meetings

Answer: B

Explanation: Cisco Webex is a cloud-based collaboration solution. Its three primary features are: (1) Calling, (2) Messaging, and (3) Meetings. Transcoding, which can convert between different codec types, might be used in a Cisco Webex environment, but it is not considered to be a primary Cisco Webex feature.

51. Identify the Cisco Unified Communications device that supports the following features: (1) Session Control, (2) Security, (3) Interworking, and (4) Demarcation

- A. CUCME
- B. CUBE
- C. CUC
- D. IM&P

Answer: B

Explanation: A Cisco Unified Border Element (CUBE) is typically a Cisco router that interconnects two IP-based telephony networks. This allows parameters of a call (e.g. the type of DTMF Relay mechanism being used) to be controlled, which is an example of Session Control. Also, a CUBE sitting at a boundary of a corporate telephony network can terminate and reoriginate calls coming in from an Internet Telephony Service Provider (ITSP), thus adding a layer of Security to the corporate telephony network. The CUBE can also interconnect IP-based calls using different signaling protocols (e.g. a SIP call and an H.323 call). The process of interconnecting those calls is called Interworking. Finally, if a CUBE sits at the boundary between a corporate telephony network and an ITSP, the CUBE represents the point where maintenance responsibilities are transferred between the corporate telephony network and the ITSP. This point of division is called a Demarcation Point.

52. You wish to set the CUCM inter-digit timeout to 2 seconds. Which Service Parameter and value would you use?

- A. Set the T301 Timer to 2
- B. Set the T303 Timer to 2000
- C. Set the T305 Timer to 2
- D. Set the T302 timer to 2000

Answer: D

Explanation: The T301 Timer is related to receiving alerting messages. The T303 Timer is an ISDN Layer 3 timer related to sending a User Setup message. The T305 Timer is an ISDN Layer 3 timer related to sending a User Disconnect message. The T302 timer is used for inter-digit timeouts, and its unit of measure is milliseconds. Therefore, setting the T302 Timer to 2000, results in an inter-digit timeout of 2 seconds.

53. Within CUCM, what contains a listing of one or more Media Resource Groups (MRGs)?

- A. Device Pool
- B. CSS
- C. MRGL
- D. Cisco Unified CM Group

Answer: C

Explanation: A media resource provides a calling feature such as music on hold (MoH), conferencing, or transcoding (i.e., converting between two codecs). One or more media resources can be grouped together in a Media Resource Group (MRG). Then, one or more MRGs can be grouped together in a Media Resource Group List (MRGL).

54. Identify the CUCM feature that influences Codec selection within a site.

- A. Locations
- B. Regions
- C. CAC
- D. LBM

Answer: B

Explanation: Regions is a CUCM feature that influences (but doesn't force) Codec selection within a site. Locations is a Call Admission Control (CAC) mechanism that prevents the oversubscription of WAN bandwidth between sites. Location Bandwidth Manager (LBM) is a service used with Enhanced Locations.

55. Which CUCM service provides backup and restore services?

- A. DRS
- B. GSB
- C. Tomcat
- D. MoH

Answer: A

Explanation: Cisco's Disaster Recovery System (DRS) provides backup and restore services for CUCM and Cisco IM&P servers. Global Site Backup (GSB) provides hot site functionality for Cisco WebEx users.

56. Using MQC to perform a router QoS configuration, what command allocates 512 kbps of priority bandwidth in an LLQ configuration?

- A. bandwidth 512
- B. priority 512
- C. police 512
- D. bandwidth 512000

Answer: B

Explanation: While the “bandwidth” command is used to allocate bandwidth in a Class-Based Weighted Fair Queuing (CB-WFQ) configuration, it does not allocate priority bandwidth for applications such as voice. However, Low Latency Queueing (LLQ) does allocate priority bandwidth using the “priority” command, and the unit of measure for the bandwidth specified by that command is kbps.

57. What type of Route Pattern often points to a URI?

- A. Circular Route Pattern
- B. SCCP Route Pattern
- C. Standard Local Route Pattern
- D. SIP Route Pattern

Answer: D

Explanation: SIP endpoint identifiers look much like e-mail addresses (e.g., kevin@kwtrain.com), and these identifiers are called URIs (Uniform Resource Locators). Some IP phones (e.g., a software IP phone such as Cisco Jabber) allow a caller to dial a URI, as opposed to a traditional phone number. This is referred to as “URI dialing,” and a Route Pattern that uses URI dialing is often called a “SIP Route Pattern.”

58. You add a conference bridge resource to your CUCM cluster. However, you do not assign that resource to a Media Resource Group. Which IP phones in your cluster can access the conference bridge?

- A. None of the IP phones
- B. All of the IP phones
- C. Only IP phones that have the NULL MRG in their MRGL
- D. Only IP phones that have the NULL MRGL in their Device Pool

Answer: B

Explanation: When you add a media resource to a CUCM cluster, the media resource initially belongs to the NULL Media Resource Group. All devices in your cluster have permission to use resources in the NULL MRG, without the need to explicitly grant that permission.

59. On a device (e.g. a router) running an SNMP agent, what structure contains Object Identifiers?

- A. MIB
- B. CEF
- C. FIB
- D. CAM

Answer: A

Explanation: A Simple Network Management Protocol (SNMP) Agent is software that can run on a managed device to provide information about that device. The information available varies from device to devices and is determined by the SNMP Agent's Object Identifiers (OIDs). The OIDs are contained within the tree structure of the SNMP Agent's Management Information Base (MIB).

60. What quality of service (QoS) queuing mechanism has a priority queue?

- A. WFQ
- B. CB-WFQ
- C. FIFO
- D. LLQ

Answer: D

Explanation: Low Latency Queuing (LLQ) adds a single priority queue to a Class-Based Weighted Fair Queuing (WFQ) configuration. Therefore, if you wanted to prioritize both voice and video, you would need to put both traffic types in the LLQ's single priority queue.

61. Under what CUCM configuration screen can you specify which trace files are collected by a CUCM cluster?

- A. Cisco Unified OS Administration
- B. Cisco Unified Reporting
- C. Cisco Unified CM Administration
- D. Cisco Unified Serviceability

Answer: D

Explanation: The Configuration option of the Trace menu in the Cisco Unified Serviceability configuration screen allows you to configure what trace files are collected by a CUCM cluster.

62. When adding a device in Cisco's Webex Control Hub, which of the following is NOT an option for adding that device?

- A. Multiple Cisco IP Phones
- B. Restricted Usage
- C. Shared Usage
- D. Personal Usage

Answer: B

Explanation: When adding a device under the "Management > Devices" menu in Webex Control Hub, you're presented with three options: (1) Personal Usage, which assigns a single personal device to a user, (2) Shared Usage, which adds a shared device and services to a workspace, and (3) Multiple Cisco IP Phones, which performs a bulk activation of devices using a CSV file.

63. Which option from the CUCM Navigation drop-down menu would you select to enable or disable CUCM services?

- A. Cisco Unified CM Administration
- B. Disaster Recovery System
- C. Cisco Unified Serviceability
- D. Cisco Unified OS Administration

Answer: C

Explanation: The Cisco Unified CM Administration option is used for CUCM feature configuration. The Disaster Recovery System option is used for performing system backups and

restores. The Cisco Unified Serviceability option is used to enable or disable CUCM services. The Cisco Unified OS Administration option is used to configure underlying CUCM platform options (e.g., software upgrades and IP addressing).

64. In an E.164 number, what comes after the leading plus sign?

- A. Area Code
- B. Country Code
- C. Office Code
- D. Subscriber Number

Answer: B

Explanation: An E.164 number begins with a plus sign. Immediately after the plus sign is a country code, which can be 1 – 3 digits in length.

65. Identify the two types of Cisco Expressway servers.

- A. Publisher and Subscriber
- B. Primary and Secondary
- C. Core and Edge
- D. Central and Distributed

Answer: C

Explanation: Cisco Expressway offers a solution for Cisco Jabber clients on the Internet to register with a CUCM server inside a corporate site, where the corporate site is protected by a firewall. This is accomplished by having two Cisco Expressway servers, one inside the firewall (i.e. the Expressway Core server) and one outside the firewall (i.e. the Expressway Edge server). The Core server sets up a secure communication channel with the Edge server, and external Cisco Jabber clients connect to the Edge server, which can send signaling information (over the previously established secure communication channel) to the Core server, which then forwards that signaling information to a CUCM server inside the corporate site.

66. You are configuring various record types on a DNS server. Which record type resolves a hostname to a corresponding IPv6 address?

- A. PTR
- B. SRV
- C. AAAA
- D. A

Answer: C

Explanation: A PTR record points to a canonical name and is commonly used when performing a reverse DNS lookup. An SRV record is used to specify the IP address of a host providing a specific service. An AAAA record resolves a hostname to a corresponding IPv6 address, and an A record resolves a hostname to a corresponding IPv4 address.

67. On a Cisco Catalyst 3750 Series switch, which output queue can be configured as a priority queue?

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

Answer: A

Explanation: Although queue architectures can vary between different Cisco Catalyst switch models, on a Cisco Catalyst 3750 Series switch, an interface's output buffer is divided into four queues (1 – 4). By default, none of the queues are configured as priority queues. However, queue #1 (and only queue #1) can be configured as a priority queue, which is completely emptied before sending frames from any of the remaining queues.

68. Your IP phone has received a digital certificate from the Communications Manager server during the TLS handshake. How can the phone verify that the certificate is legitimate and came from the server?

- A. By decrypting the certificate using the server's public key
- B. By decrypting the certificate using the server's private key
- C. By decrypting the certificate using the CA's private key
- D. By decrypting the certificate using the CA's public key

Answer: D

Explanation: The server's digital certificate is signed (encrypted) by a trusted third party called a Certificate Authority (CA) using the CA's private key. The client (IP phone) already possesses the public keys of various CAs. To verify the legitimacy of the server's certificate, the client decrypts the certificate using the CA's public key. If the decryption is successful, the client can be assured that the certificate is legitimate and came from the server.

69. You are troubleshooting a failed call transfer in your SIP network. Which of the following is the most probable cause for the failure?

- A. The transferred call is using a different codec than the original call.
- B. The SIP timers are set too low, causing a delay in the transfer process.
- C. The dial plan prevents the transfer due to call permissions.
- D. The transferred call is using the same media resources as the original call.

Answer: C

Explanation: One common reason for a failed call transfer is that the dial plan prevents the transfer due to call permissions. Although Phone 1 may have permission to talk to both Phone 2 and Phone 3, it doesn't necessarily mean that Phone 2 has permission to talk to Phone 3. It's essential to ensure that the dial plan allows for the desired call transfers between the involved parties.