Ericsson Certified Associate - Radio Network Optimization

Ericsson ECP-383

Version Demo

Total Demo Questions: 7

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QUESTION NO: 1

Which two channel bandwidths are available in LTE? (Choose two.)

A. 2.8 MHz

B. 1.4 MHz

C. 30 MHz

D. 15 MHz

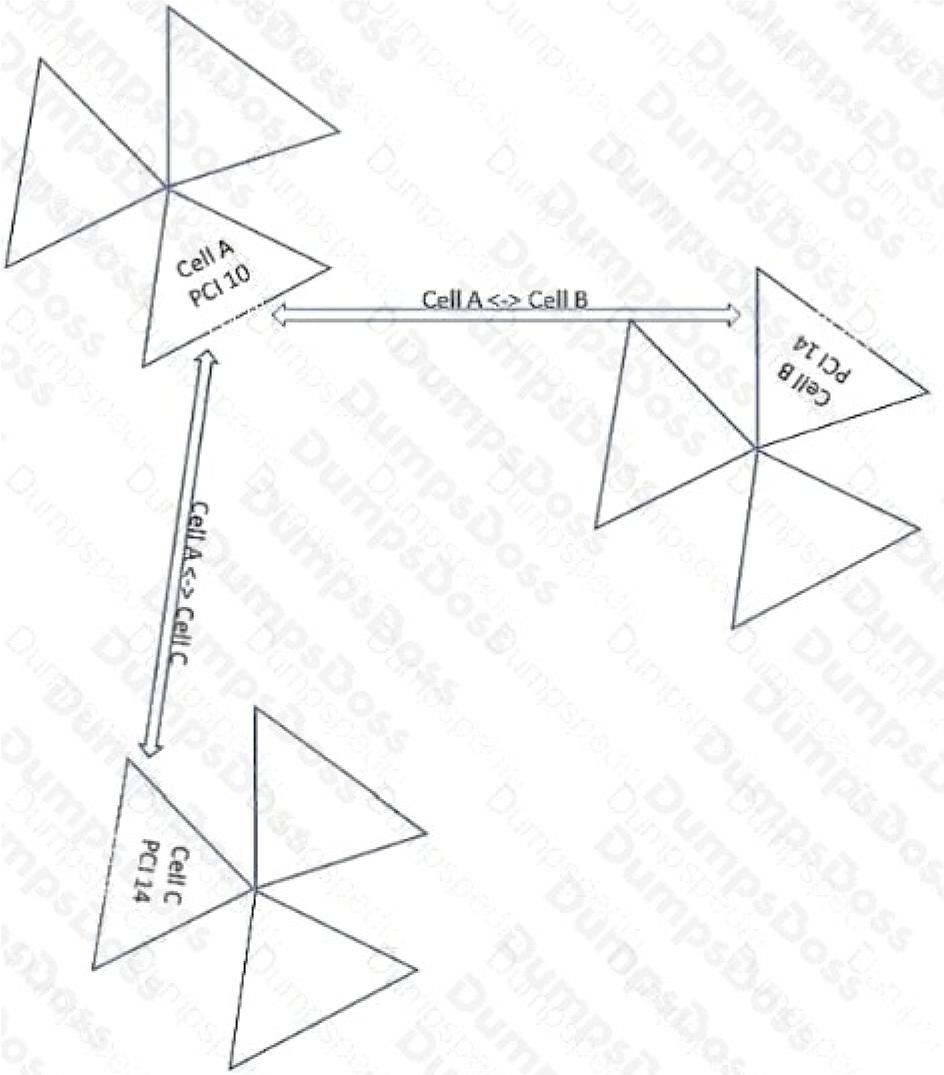
ANSWER: B D

Explanation:

1.4 MHz and **15 MHz** are standardized LTE channel bandwidths. LTE uses a defined set of nominal transmission bandwidths—1.4, 3, 5, 10, 15, and 20 MHz—to support deployments with differing spectrum allocations. A 1.4 MHz carrier is the narrowest standard LTE bandwidth and is particularly relevant where spectrum availability is limited. It corresponds to six physical resource blocks, with each resource block occupying 180 kHz in the frequency domain. A 15 MHz carrier is also a standard LTE configuration and corresponds to 75 physical resource blocks. The nominal channel bandwidth includes the usable LTE resource-block allocation plus guard bands at the carrier edges, which are necessary to meet spectrum-emission requirements and enable coexistence with neighboring channels. These bandwidth choices are specified for LTE user equipment radio transmission and reception requirements in the 3GPP E-UTRA specifications. See the 3GPP LTE/E-UTRA specification archive for TS 36.101 and the LTE radio-access specifications index at 3GPP 36-series.

QUESTION NO: 2

Review the exhibit.



Cell A has neighbor relations with cells B and C which share the same frequency and PCI. Cells B and C do not share any overlapping area.

Referring to the exhibit which statement is correct?

A. Handover performance of cell A is affected.

B. There is no degraded performance expected in any of the cells.

C. Handover performance of cell C is affected.

D. Handover performance of cell B is affected.

ANSWER: A

Explanation:

Handover performance of cell A is affected. Cells B and C use the same physical cell identity on the same carrier frequency and are both configured as neighbors of cell A. When a UE is served by cell A, its intra-frequency measurement reporting identifies a detected neighbor primarily through the carrier frequency and physical cell identity. Because both potential target cells have the same combination, cell A cannot unambiguously determine whether a measurement associated with that identity corresponds to cell B or cell C. This is a PCI collision from the serving cell's neighbor-relation perspective. The fact that the two target cells have no geographic overlap does not remove the ambiguity at cell A, because both are candidate neighbors visible or relevant from that serving cell. Ambiguous identification can prevent reliable selection of the intended handover target and can therefore degrade handover performance originating in cell A. PCI planning must ensure unique PCI assignment among cells that can be confused by a common serving cell, especially on the same frequency. The UE measurement-report framework and physical-cell-identity use are specified in [3GPP TS 36.331](); LTE mobility architecture and handover principles are described in [3GPP TS 36.300]().

QUESTION NO: 3

Caller A is on a VoLTE call with Caller

B.

Suddenly Caller A is no longer able to hear Caller B but Caller B can hear Caller

A.

Which two call legs and directions should be analyzed first in this scenario? (Choose two.)

A. the Caller B downlink

B. the Caller A uplink

C. the Caller A downlink

D. the Caller B uplink

ANSWER: C D

Explanation:

The initial analysis should follow the failed speech path from Caller B to Caller A. Since Caller B can still hear Caller A, the speech path in the opposite direction is working; the impairment is isolated to media flowing toward Caller A. In LTE/VoLTE radio terminology, Caller B's transmitted voice packets use the Caller B uplink, from Caller B's UE through the radio access network toward the IMS/media path. The same voice stream must then reach Caller A over the Caller A downlink, from the network to Caller A's UE. These are therefore the two radio call legs that directly carry the missing audio.

Investigating the Caller B uplink first helps verify whether the originating UE is producing and transmitting RTP voice media successfully and whether uplink radio conditions, scheduling, packet loss, or bearer handling are affecting that media. Investigating the Caller A downlink verifies delivery of that media toward the receiving UE, including downlink radio quality, scheduling, packet loss, and bearer continuity. This directional tracing approach is consistent with RTP's sender-to-receiver media model and LTE's distinct uplink and downlink user-plane treatment. See RFC 3550: RTP and 3GPP TS 23.401.

QUESTION NO: 4

What is the recommended setting for the primaryCpichPower parameter according to Ericsson NDO guidelines?

A. less than 33 dBm

B. 36 dBm or more Independently of the maximum transmission power

C. 8-10% of min[maximumTransmissionPower, maxDlPowerCapability]

D. 33 dBm independently of maximum transmission power

ANSWER: C

Explanation:

The recommended setting is **8-10% of min[maximumTransmissionPower, maxDlPowerCapability]**. The primary common pilot channel is the continuously transmitted downlink reference used by user equipment for cell search, identification, measurements, and radio-link quality assessment. Its power therefore needs to be high enough to provide dependable coverage and mobility measurements, while remaining proportionate to the actual downlink power available from the radio configuration.

Using the minimum of `maximumTransmissionPower` and `maxDlPowerCapability` makes the setting robust when the configured cell transmission limit differs from the hardware's supported downlink capability. Expressing the pilot power as a percentage rather than as a fixed dBm value also preserves an appropriate pilot-to-total-power relationship across sectors with different power classes. The 8-10% guideline provides a practical balance between pilot coverage and the downlink capacity retained for traffic and common channels. This is consistent with the role of CPICH power in WCDMA cell-selection, measurement, and coverage behavior defined in the 3GPP radio-interface specifications. See the 3GPP TS 25.331 specification archive and Ericsson's technical support portal for product documentation and configuration guidance.

QUESTION NO: 5

A WCDMA cell has a persistently high received total wideband power (RTWP). The condition continues during the night when traffic is very low. Spectrum measurements show a narrowband signal within the WCDMA uplink receive band.

What is the most likely cause of the problem?

A. External uplink interference.

B. Excessive downlink CPICH power.

C. An incorrect downlink antenna tilt.

D. Normal uplink traffic loading.

ANSWER: A

Explanation:

An external uplink interferer is the most likely cause. RTWP represents the total power received by the NodeB over the uplink bandwidth. A persistent narrowband signal in the receive band, particularly when normal traffic is low, raises RTWP and can desensitize the receiver to weak UE transmissions.

High subscriber traffic could raise RTWP, but it would normally follow traffic patterns. A downlink antenna-tilt issue or an excessively high CPICH power setting does not create a narrowband signal at the NodeB uplink receiver.

QUESTION NO: 6

Which two statements correctly describe the LTE QoS treatment normally used for a VoLTE service? (Choose two.)

A. Conversational voice media is normally carried using a GBR bearer associated with QCI 1.

B. IMS signalling is normally carried using a non-GBR bearer associated with QCI 5.

C. Conversational voice media is normally carried using a best-effort bearer.

D. IMS signalling and voice media must use the same EPS bearer.

ANSWER: A B

Explanation:

VoLTE conversational voice media is normally carried on a GBR bearer associated with QCI 1. The guaranteed-bit-rate treatment and priority characteristics are intended to support the delay-sensitive voice flow. IMS signalling is normally carried separately using QCI 5, which is a non-GBR bearer.

Separating signalling and voice media permits their different QoS requirements to be handled independently. QCI 1 is not a best-effort bearer, and a single bearer is not used to replace the distinct IMS signalling and conversational-media treatment.

QUESTION NO: 7

Which statement is correct about network slicing?

A. Network slicking is a splitting of end users between competing operators in small population markets.

B. Network slicing is a customized division of a cellular network designed to allow end users to control allocation of network resources between themselves.

C. Network slicing is a separation of network architecture between vendors in a multivendor network.

D. Network slicing is a movement of network functions between aggregation layers to meet performance requirements for specific use cases.

E. Network slicing creates multiple logical end-to-end networks on shared physical infrastructure, each tailored to specific service requirements.

ANSWER: E

Explanation:

Network slicing is the creation of multiple logical, end-to-end networks on a common physical network infrastructure, with each slice tailored to the requirements of a particular service, customer group, or use case. A slice can be designed with differentiated performance and operational characteristics, such as latency, throughput, reliability, availability, security, and capacity. This enables an operator to support diverse services efficiently on the same 5G infrastructure—for example, enhanced mobile broadband, massive IoT connectivity, and mission-critical industrial applications—while applying appropriate resource isolation and service-level objectives. Slices are enabled through capabilities across the 5G system, including the radio access network, transport, and core network, rather than being merely a relocation of functions at aggregation layers. Ericsson describes network slicing as an end-to-end capability that lets operators provide differentiated connectivity services over shared infrastructure. The 3GPP 5G system architecture likewise defines network-slice support as a fundamental mechanism for delivering networks with specific characteristics to users and services. See Ericsson: 5G network slicing and 3GPP: 5G system overview.