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HCS-5G RAN V1.0

Huawei H35-460

Version Demo

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QUESTION NO: 1

The engineering state of the factory setting of 5G equipment shipment is ?

A. New

B. Expansion

C. Commissioning

D. Ordinary

ANSWER: C

Explanation:

Commissioning is the correct factory engineering state for shipped 5G RAN equipment. This state identifies equipment that has not yet entered routine network operation and is intended to undergo site deployment, hardware installation checks, transport and power verification, software configuration, cell activation, and acceptance testing. Keeping a newly shipped device in the commissioning state supports controlled introduction into the live network: engineers can apply the planned site-specific parameters and validate alarms, synchronization, radio functionality, and connectivity before the equipment is treated as operational. After these commissioning activities and acceptance procedures are completed, the engineering state can be updated as appropriate for its operational lifecycle. This default is therefore aligned with Huawei's deployment workflow, in which 5G RAN equipment is delivered and brought online through an engineering commissioning process rather than being considered a normally operating network element immediately upon shipment. Huawei's enterprise support portal provides product documentation and operational guidance for installation and commissioning activities: Huawei Enterprise Support. Huawei also describes its 5G RAN portfolio and deployment capabilities at Huawei 5G RAN.

QUESTION NO: 2

The X2 interface between LTE and NR can be established by configuring the data separately on the LTE side or the NR side

A. Correct

B. Errors

ANSWER: B

Explanation:

Errors is correct. An LTE–NR X2 interface is an inter-node interface, so its operational establishment requires compatible configuration and transport connectivity at both participating nodes: the LTE eNB and the NR gNB. Configuration must identify the peer node and its transport-layer addressing, establish the relevant SCTP/IP connectivity, and enable the applicable X2 application signaling procedures. Configuring only one side does not by itself create a usable X2 relationship, because the remote peer must also be reachable and configured to accept and process the interface signaling. This is especially relevant in EN-DC deployments, where the X2 interface supports coordination between the master eNB and secondary gNB, including secondary-node addition and related dual-connectivity procedures. The 3GPP multi-radio dual-connectivity architecture specifies the LTE–NR inter-node relationship and associated interface use in 3GPP TS 37.340. The X2 application-protocol specifications, including signaling principles used for X2 connectivity, are available in 3GPP TS 36.423. Therefore, separate one-sided configuration is insufficient; coordinated configuration of both LTE and NR sides is required.

QUESTION NO: 3

5G RAN 2.0 version uplink and downlink decoupling feature deployment can be connected to which 4G main control boards?

A. UMPTe

B. LMPT

C. UMPTb

D. UMPTc

ANSWER: C D

Explanation:

UMPTb and UMPTc are the compatible 4G main control boards for deployment of the 5G RAN 2.0 uplink and downlink decoupling feature. In Huawei baseband architecture, the main control board provides essential control-plane processing, transport connectivity, synchronization coordination, and software/platform support for radio-access features. Uplink/downlink decoupling allows uplink and downlink coverage or capacity resources to be deployed and managed with different cell-layer characteristics, so it depends on a controller generation that supports the relevant RAN 2.0 hardware and software interoperability requirements. UMPTb and UMPTc provide that supported platform capability when connecting the applicable 4G and 5G radio resources. This compatibility enables the feature to be introduced during an evolution scenario without requiring a separate legacy control architecture for the decoupled uplink and downlink deployment. Huawei's 5G solution materials describe RAN evolution and coordinated use of radio and baseband resources, while the Huawei enterprise support portal is the authoritative location for version-specific product documentation, hardware compatibility information, and deployment notices. See Huawei 5G solutions and Huawei Enterprise Support.

QUESTION NO: 4

Which of the following MML commands are required to add neighbor information across gNodeB?

A. ADD NRCELL RELATION

B. ADD NREXTERNALCELL

C. ADD NRCELL

ANSWER: A B

Explanation:

For an inter-gNodeB NR neighbor, the serving gNodeB needs both the neighboring cell's external-cell definition and a neighbor-relation object that associates its local serving cell with that external target. **ADD NREXTERNALCELL** creates the external NR-cell information used to identify and characterize the cell managed by the other gNodeB, including the identifiers and radio parameters needed for mobility processing. **ADD NRCELL RELATION** then creates the NR neighbor relationship from the local NR cell to that defined neighbor. Together, these objects provide the configuration foundation for inter-gNodeB mobility procedures, including neighbor identification and handover target selection. This follows Huawei's configuration model, in which external network elements/cells are represented before relationships referencing them are created. Huawei product documentation and software-version-specific MML command references are available through the Huawei Enterprise Support portal; Huawei's 5G RAN product information is also available at Huawei 5G solutions.

QUESTION NO: 5

In the 5G RAN2.0 version, what is the maximum number of 100MHz 64*64 cells supported by a single BBU900?

A. 18

B. 3

C. 6

D. 9

ANSWER: A

Explanation:

18 is the maximum number of 100 MHz 64T64R cells supported by one BBU900 in Huawei's 5G RAN 2.0 capacity specification. This figure is a high-load baseband capacity metric: each cell uses a 100 MHz NR carrier and 64 transmit/64 receive antenna processing, which represents a demanding massive-MIMO configuration. The BBU900 provides the centralized baseband processing resources needed to schedule users, process NR physical-layer workloads, and support the associated high-throughput fronthaul-facing functions across up to 18 such cells. In capacity planning, this value is therefore used to determine how many BBU900 units are required for a site whose sectors use 100 MHz 64T64R radio configurations. Actual deployment design must still account for the software release, feature set, traffic profile, carrier setup, and hardware-board configuration, but the RAN 2.0 maximum stated in the question is 18 cells. Huawei's 5G RAN portfolio and its centralized baseband architecture are described on the Huawei 5G RAN page. The broader NR radio framework in which 100 MHz carriers operate is defined by 3GPP's 5G system overview.

QUESTION NO: 6

What information does UE carry in reporting the MR of the NR neighbourhood?

A. THIS

B. RSRP

C. MAC CE

D. PCI

ANSWER: B D

Explanation:

For an NR neighbour measurement report, the UE identifies the measured neighbour cell using its Physical Cell Identity, represented by **PCI**, and provides the measured radio level, including **RSRP** (Reference Signal Received Power). These results are sent in the RRC *MeasurementReport* procedure after the configured measurement event or periodic reporting criterion is met. The PCI lets the network determine which detected NR cell the reported result belongs to; it is therefore essential when several neighbour cells may be present on the same frequency. RSRP quantifies the received strength of the configured NR reference signal and is a fundamental input to mobility decisions such as neighbour evaluation, handover preparation, and cell reselection-related radio assessment. In 3GPP NR RRC, NR measurement results include a physical cell identity and cell-level measurement quantities. The applicable quantities include SS-RSRP or CSI-RSRP, according to the measurement configuration. Huawei NR mobility and measurement functions use these UE-reported identifiers and radio measurements to evaluate candidate neighbour cells. See the NR RRC MeasurementReport and measurement-result definitions in 3GPP TS 38.331 via ETSI and the NR physical-layer measurement definitions in 3GPP TS 38.215 via ETSI.

QUESTION NO: 7

What is IMT-2020's vision for peak rates for 5G networks?

A. 10Gbps

B. 100Gbps

C. 1Gbps

D. 1001Mbps

E. 20Gbps

ANSWER: E

Explanation:

20Gbps is the IMT-2020 vision's headline peak data-rate target for 5G radio networks. ITU-R Recommendation M.2083 describes IMT-2020 as supporting a peak data rate of up to 20 Gbit/s in the downlink, under suitable radio conditions and with sufficiently wide bandwidth. This is a peak capability target rather than an expected user throughput: it represents the

maximum rate a network should be able to provide in an idealized deployment scenario, not the speed that every subscriber will continuously receive. The same IMT-2020 framework also identifies an uplink peak data-rate target of 10 Gbit/s, which may explain why 10Gbps is sometimes associated with the standard. However, when a single headline peak rate is requested, the commonly cited IMT-2020 5G target is the 20 Gbit/s downlink figure. The requirement is part of a broader IMT-2020 performance vision that includes latency, mobility, connection density, area traffic capacity, and spectrum efficiency. See ITU-R Recommendation M.2083 and the official IMT-2020 vision document.

QUESTION NO: 8

After the new NSA network is turned on, which of the following phenomena can be observed?

A. eNodeb sends SGNB_ADD_REQ through the X2 interface

B. The UE sends RRC_ CONN_RECFG_COMP messages to the NR base station

C. You can observe the RRC_MEAS_RPRT messages reported by UE

D. The base station can be observed sending RRC_CONN_RECFG message to the UE, carrying the EventB1 cell

ANSWER: A C D

Explanation:

In NSA dual connectivity, LTE eNodeB functions as the master node and controls the initial RRC connection, while the NR node is introduced as a secondary node when NR resources are needed. Consequently, the eNodeB sends *SGNB_ADD_REQ through the X2 interface* to request establishment of the NR secondary-node leg. Before this addition, the LTE-side configuration includes inter-RAT NR measurement control. The base station therefore sends *RRC_CONN_RECFG message to the UE, carrying the EventB1 cell*; Event B1 is used to trigger reporting when a neighboring inter-RAT cell meets the configured condition. After receiving that configuration and detecting a qualifying NR cell, the UE produces *RRC_MEAS_RPRT messages reported by UE*. These reports allow the LTE master node to decide to add the NR secondary node. This sequence reflects the control-plane role of LTE in EN-DC/NSA: RRC signalling and measurement decisions remain anchored at the master eNodeB, and X2-based secondary-node addition is then coordinated between network nodes. The standardized dual-connectivity architecture and secondary-node addition procedure are described in 3GPP TS 37.340; LTE RRC measurement and reconfiguration procedures are specified in 3GPP TS 36.331.

QUESTION NO: 9

Regarding BWP, what is the following description correct?

A. Each UE can be configured with 8 dedicated BWPs

B. UE's initial BWP is obtained during cell search

C. The PRB index is the RB index of the bandwidth within the RG, while the CRB is the RB index within the bandwidth of the BWP

D. The CRB index is the RB prime index of the bandwidth within RG, while the PRB is the RB index within the BWP bandwidth

ANSWER: B D

Explanation:

UE's initial BWP is obtained during cell search because initial access establishes the common downlink configuration needed for a UE to receive system information and proceed with access. During synchronization and system-information acquisition, the UE obtains the parameters defining the initial BWP, including the common configuration carried through the MIB/SIB1 framework. This initial BWP provides the initial operating bandwidth before any UE-specific BWP configuration is applied. The CRB index is the RB prime index of the bandwidth within RG, while the PRB is the RB index within the BWP bandwidth because NR uses a common resource-block coordinate system across the carrier/reference grid and a physical resource-block coordinate system local to the configured BWP. CRB numbering is referenced to Point A and supports a

common frequency-domain reference, whereas PRB numbering expresses resources relative to the BWP used for scheduling and transmission. These coordinate systems allow the network to map BWP-local allocations consistently onto the carrier-wide grid. The relevant BWP and common-resource-block configuration is specified in 3GPP NR radio-resource-control and physical-layer specifications; see 3GPP TS 38.331 and 3GPP TS 38.211.

QUESTION NO: 10

Which of the following requirements is generally included in the target rate of urban areas in eMBB scenarios of 5G?

A. 10Gbps peak rate

B. 100-200Mbps continuous coverage

C. Target rate of 500Mbps

D. 100Mbps continuous coverage

ANSWER: A C D

Explanation:

The target-rate expectations for urban enhanced Mobile Broadband deployments commonly combine three complementary measures: a very high theoretical maximum, a high user-experienced rate in favourable or hotspot conditions, and a baseline rate available throughout the coverage area. Therefore, **10Gbps peak rate**, **Target rate of 500Mbps**, and **100Mbps continuous coverage** are included as the relevant urban eMBB targets. Peak rate describes the maximum supported data rate under ideal radio, spectrum, and device conditions. A 500 Mbps target represents the high throughput expected where network resources and radio conditions permit, helping support bandwidth-intensive services. Continuous coverage at 100 Mbps expresses the more fundamental user-experience objective: users should retain a robust broadband service while moving across the urban coverage footprint, rather than achieving high rates only at isolated points. This layered approach reflects the IMT-2020 framework's distinction between peak data rate and user-experienced data rate, which are assessed differently according to deployment and service scenario. Huawei 5G planning material similarly treats eMBB as requiring both extreme capacity and broadly available mobile broadband performance. See the ITU-R IMT-2020 vision recommendation and Huawei's 5G network evolution overview.

QUESTION NO: 11

What is the maximum number of RANKS supported by CPE Pro?

A. 2

B. 4

C. 1

D. 8

ANSWER: B

Explanation:

The correct answer is **4**. Huawei 5G CPE Pro supports downlink 4×4 MIMO capability. In a MIMO radio system, the transmission rank is the number of independently spatially multiplexed data layers that can be carried over the radio channel at a given time. Therefore, a device with four receive/transmit spatial paths can support a maximum transmission rank of four when the network configuration, channel conditions, and UE capability negotiation permit it. This capability is important because higher-rank transmission can raise peak throughput by sending multiple data streams simultaneously rather than relying on a single spatial layer. Huawei presents the CPE Pro as a 5G customer-premises device designed to use advanced 5G radio features, including 4×4 MIMO, to deliver high-speed fixed-wireless access. The rank value describes the maximum number of spatial layers available to the device; real-time rank may be lower because it is dynamically selected according to signal quality, antenna correlation, available bandwidth, and the serving cell's scheduling decisions. Huawei product

information for the CPE Pro is available at Huawei 5G CPE Pro, and Huawei's 5G overview provides context on the radio technologies used by 5G devices at What Is 5G?.

QUESTION NO: 12

The ratio of upstream and downstream subframes in 5G RAN2.0 gNodeB cells supports SA5.

A. True

B. False

ANSWER: B

Explanation:

False is correct. In 5G NR, the downlink/uplink time-domain allocation of a TDD cell is controlled through standardized slot and symbol configuration rather than through an "SA5" uplink/downlink subframe-ratio capability. NR uses flexible slot formats and semi-static TDD configuration, enabling a network to define which symbols are downlink, uplink, or flexible according to the selected numerology and deployment requirements. The relevant RRC configuration includes *tdd-UL-DL-ConfigurationCommon*, which defines the common downlink/uplink pattern for a cell. Therefore, a statement that the gNodeB-cell uplink/downlink subframe ratio in 5G RAN2.0 "supports SA5" does not describe a valid standardized NR TDD ratio or configuration parameter. The 3GPP NR physical-channel specification defines the slot-format framework used for TDD operation, while the NR RRC specification defines how common TDD UL/DL configurations are signaled to devices. See 3GPP TS 38.211 archive and 3GPP TS 38.331 archive.

QUESTION NO: 13

In the process of automatically obtaining an IP address through DHCP, what message information is involved in gNodeB?

A. DHCPACK

B. DHCPOFFER

C. DHCPREQUEST

D. DHCPDISCOVER

ANSWER: A B C D

Explanation:

A gNodeB that is configured to obtain its address dynamically acts as a DHCP client. Its normal initial address-allocation exchange follows the standard four-message DHCP process, commonly called DORA: DHCPDISCOVER, DHCPOFFER, DHCPREQUEST, and DHCPACK. The gNodeB first sends DHCPDISCOVER to locate available DHCP servers on the network. A server responds with DHCPOFFER, proposing an address and associated configuration parameters such as the subnet mask, default gateway, DNS information, lease duration, and any deployment-specific options. The gNodeB then sends DHCPREQUEST to select and request the offered configuration. Finally, the DHCP server confirms the lease and configuration in DHCPACK, allowing the gNodeB to apply the assigned IP settings and establish IP connectivity for subsequent management and service-related communication. These messages are therefore all involved when a gNodeB successfully obtains an IPv4 address through the normal DHCP allocation procedure. The DHCP protocol's client-server allocation flow is defined in RFC 2131; the DHCP option and message-format framework is further specified in RFC 2132.

QUESTION NO: 14

Where is the downlink data distribution in the NSA architecture implemented?

A. MAC layer

B. Physical layer

C. PDCP layer

D. RLC layer

ANSWER: C

Explanation:

In NSA operation based on E-UTRA–NR Dual Connectivity (EN-DC), downlink data distribution is implemented at the PDCP layer. The PDCP entity is the convergence point for a data radio bearer that can use radio resources from both the LTE master node and the NR secondary node. It can determine how PDCP data units are routed to the relevant lower-layer legs, allowing traffic to be delivered through LTE, NR, or split across both as configured. This placement is important because PDCP retains end-to-end bearer functions, including sequence-number handling, reordering where applicable, header compression, and ciphering, while the separate lower-layer protocol stacks handle transmission on their respective radio legs. Consequently, the PDCP layer can distribute downlink user-plane data without requiring MAC, RLC, or physical-layer entities to make the cross-node bearer-distribution decision. This architecture supports NSA's objective of combining LTE coverage/control anchoring with NR capacity and throughput. The dual-connectivity architecture and its bearer handling are specified in 3GPP TS 37.340. PDCP protocol functionality is further defined in 3GPP TS 38.323.

QUESTION NO: 15

Which MML command is used to add trace area information to gNodeB?

A. ADD GNBTRACKINGAREA

B. ADD NR TRACKINGAREA

C. ADD CNOPERATORTA

D. ADD TRACKIMGAREA

ANSWER: A

Explanation:

`ADD GNBTRACKINGAREA` is the Huawei gNodeB MML command used to create gNodeB tracking-area information. This configuration establishes the tracking-area context used by the gNodeB for mobility-management-related interaction with the 5G Core. A tracking area is identified by values including the PLMN and Tracking Area Code, and it is fundamental to how the network groups cells for registration, reachability, and paging-related mobility procedures. The command name follows Huawei MML object naming: `GNBTRACKINGAREA` identifies a tracking-area object at gNodeB scope, while `ADD` creates that object in the node configuration. Therefore, this command directly matches the requested operation of adding tracking-area information to a gNodeB. The underlying 5G tracking-area concept and its use in mobility management are specified in 3GPP TS 23.501, available through the 3GPP specification archive. Huawei's public 5G wireless solution information also provides context for its 5G RAN portfolio, in which such gNodeB configuration is performed through Huawei operation and maintenance tooling.

QUESTION NO: 16

Which protocols are used on the NG interface between a gNodeB and the 5G Core? (Multiple Choice)

A. NGAP

B. SCTP

C. GTP-U

D. X2AP

ANSWER: A B C

Explanation:

NGAP is used on the N2 control-plane interface between the gNodeB and AMF. NGAP signaling is transported over **SCTP**, which provides reliable message-oriented transport for signaling associations. On the N3 user-plane interface, **GTP-U** is used to tunnel user-plane packets between the gNodeB and UPF.

X2AP is associated with LTE X2 interface signaling and is not used on the NG interface. The NG-RAN architecture and interface protocols are described in 3GPP TS 38.401 and 3GPP TS 38.413.

QUESTION NO: 17

What configuration modules does gNodeB wireless data configuration include?

A. Configure the cell

B. Configure the antenna

C. Configure sectors

D. Configure adjacencies

ANSWER: A B C D

Explanation:

gNodeB wireless data configuration is built from interrelated radio-resource and topology objects. **Configure the cell** is required because the NR cell is the fundamental service object, carrying identities, carrier and bandwidth parameters, common radio settings, and access-related information. **Configure the antenna** is also part of the wireless-data model, since antenna or antenna-array data defines the physical RF connection and supports beamforming, transmission, and reception characteristics. **Configure sectors** is required to associate the logical radio coverage and capacity design with physical directional coverage areas; a site can use one or more sectors according to its deployment. **Configure adjacencies** completes the radio topology by defining neighboring cells needed for mobility-related procedures, including handover and neighbor-cell measurement management. Together, these configuration areas establish the serving-cell radio setup, physical antenna/sector deployment, and intercell relationship data that a gNodeB needs for operational NR coverage and mobility. The 5G NR architecture and cell-level radio concepts are described in 3GPP TS 38.300; Huawei's 5G product overview provides additional context for Huawei 5G radio-network deployments in Huawei 5G.

QUESTION NO: 18

gNodeB implements X2 self-configuration via MME.

A. True

B. False

ANSWER: B

Explanation:

False is correct because the statement combines LTE interface and core-network terminology with the 5G NR gNodeB architecture. X2 is the inter-eNodeB interface defined for LTE/E-UTRAN; it supports functions such as mobility and inter-cell coordination between eNodeBs. The MME is likewise an LTE EPC control-plane entity, connected to eNodeBs through the S1-MME interface. A 5G gNodeB instead connects to the 5G Core through the NG interface, with the Access and Mobility Management Function serving the mobility-management role. For direct signalling between NG-RAN nodes, 5G specifies the Xn interface, including Xn-C for control plane and Xn-U for user plane. Therefore, describing a gNodeB as performing "X2 self-configuration via MME" is not valid 5G RAN terminology or architecture. The 3GPP NR architecture identifies NG and Xn as the relevant interfaces for gNodeB connectivity and inter-node interaction, while the LTE architecture specification

identifies X2 and MME-related connectivity in E-UTRAN/EPC. See 3GPP TS 38.300, NR overall description and 3GPP TS 36.300, E-UTRAN overall description.

QUESTION NO: 19

DCDU-12B is a DC power distribution unit, how much DC power input does it provide to the components in the cabinet?

A. 24V

B. 48V

C. -24V

D. -48V

ANSWER: D

Explanation:

The correct answer is **-48V**. The DCDU-12B is used in Huawei telecom power-distribution configurations to distribute nominal negative 48 V DC power to the equipment installed in a cabinet. In telecommunications, “-48 V DC” describes the polarity convention: the positive side of the DC system is normally bonded to earth/ground, while the working supply conductor is at approximately −48 V relative to ground. This convention is widely used because it supports reliable DC power systems and reduces corrosion risks in traditional telecom outside-plant environments. The DCDU-12B therefore supplies the cabinet components from the −48 V DC power system through its protected distribution outputs. The actual voltage may vary within the operating range of the site power plant and batteries, but its nominal input and distribution designation remains −48 V DC. Huawei’s product documentation for its wireless base-station equipment identifies −48 V DC as the standard DC power-input type for associated cabinets and power-distribution arrangements. See Huawei’s wireless site power documentation and the ITU-T overview of telecommunication power and grounding practices.

QUESTION NO: 20

Under the EN-DC architecture, eNodeB/gNodeB only supports configuring X2 fingers based on EndPoint.

A. True

B. False

ANSWER: A

Explanation:

True is correct. In an EN-DC deployment, the LTE eNodeB acts as the master node and the NR gNodeB acts as the secondary node, with their inter-node control-plane and user-plane coordination using the X2 interface. The X2 relationship is established toward a specific transport-network peer, identified by its endpoint information. Therefore, the eNodeB/gNodeB configuration model for this EN-DC X2 connectivity is endpoint-based: the peer node’s relevant endpoint information is used to create and maintain the X2 connection and the associated inter-RAT coordination relationship. This is consistent with the EN-DC architecture defined by 3GPP, where an en-gNB is connected to the master eNB through X2 and supports dual-connectivity procedures across the LTE and NR radio access networks. The endpoint-based approach ensures that signaling and bearer coordination are associated with the intended remote network node and its reachable transport address. See the 3GPP EN-DC and multi-connectivity specification, TS 37.340, and the 5G system architecture overview in TS 23.501.

QUESTION NO: 21

Which of the following factors affects the peak CPE downlink rate in NSA networking?

A. Wireless downlink 3% bit error rate

B. CPE placement

C. Transmit power uplink of the CPE

D. Downstream transmit power of NR base stations

ANSWER: A B D

Explanation:

In NSA operation, the achievable peak downlink throughput at a CPE depends on the quality of the NR downlink radio link and the resources that link can sustain. “Wireless downlink 3% bit error rate” represents a downlink error-performance condition: radio errors influence retransmissions and the modulation-and-coding scheme selected by link adaptation, thereby affecting the usable downlink data rate. “CPE placement” is also material because antenna location, indoor penetration, obstructions, height, orientation, and proximity to windows affect received signal level and interference conditions. Better placement can support higher-order modulation, more stable coding, and greater throughput. “Downstream transmit power of NR base stations” affects downlink coverage and received signal quality at the CPE. Subject to interference and regulatory or deployment limits, adequate base-station transmit power helps the device maintain the radio conditions needed for high-rate downlink transmission. These relationships follow the NR physical-layer mechanisms for modulation, coding, HARQ, and radio measurements defined by 3GPP. See 3GPP TS 38.214 archive for NR physical-layer data procedures and 3GPP TS 38.331 archive for NR radio-resource-control measurements and configuration.

QUESTION NO: 22

What are the functions of RLC operating in Acknowledged Mode? (Multiple Choice)

A. ARQ retransmission

B. Segmentation and reassembly

C. In-sequence delivery

D. IP header compression

ANSWER: A B C

Explanation:

RLC Acknowledged Mode provides reliable radio-bearer delivery through **ARQ retransmission**. When an RLC data PDU is not successfully received, the receiving side can report the missing sequence information and the transmitting side retransmits the required data. RLC AM also performs **segmentation and reassembly** so that RLC SDUs can be fitted to the radio resources allocated by MAC. In addition, it supports **in-sequence delivery** to upper layers after received PDUs have been correctly reassembled and reordered.

Header compression is not an RLC function. IP header compression is performed by PDCP. RLC protocol functions are specified in 3GPP TS 38.322.

QUESTION NO: 23

How many DEVIPs are supported for 5G RAN2.0 main control single-board Ethernet interface configuration?

A. 6

B. 5

C. 7

D. 8

ANSWER: D

Explanation:

8 is correct. In Huawei 5G RAN2.0 main-control-board Ethernet interface configuration, a DEVIP is a logical/virtual IP address associated with the board's Ethernet networking function. The platform supports configuring up to eight DEVIPs for this purpose. This capacity allows the main control board to maintain the required logical addressing for management, service communication, redundancy-related networking, and other operational interface requirements without requiring a separate physical Ethernet interface for every IP endpoint. The limit is a board and software capability defined by the applicable 5G RAN2.0 configuration documentation, so an implementation should plan its logical interface and IP-address allocation within the eight-DEVIP maximum. When preparing or validating a site configuration, engineers should also confirm the exact board model and software release, because Huawei documentation and software packages define the supported configuration scope for a specific network-element version. Huawei product documentation, software documentation, and related technical-support resources are available through the Huawei Enterprise Support portal; use its 5G RAN2.0 documentation search to locate the release-specific Ethernet-interface configuration guide.

QUESTION NO: 24

What are the following layer two protocol of the 5G air interface control plane? (Multiple Choice)

A. SDAP

B. PDCP

C. MAC

D. RLC

ANSWER: B C D

Explanation:

The 5G NR radio-interface control plane uses the Packet Data Convergence Protocol, Radio Link Control protocol, and Medium Access Control protocol as its Layer 2 protocol stack. Packet Data Convergence Protocol provides functions including header compression, ciphering, and integrity protection for radio bearers carrying control-plane signaling. Radio Link Control supports transfer of upper-layer protocol data units, segmentation and reassembly, and—when acknowledged mode is configured—retransmission functions. Medium Access Control performs functions such as multiplexing logical channels onto transport channels, scheduling-related processing, and hybrid automatic repeat request handling. Together, these protocols carry Radio Resource Control signaling between the UE and gNB through the NR air interface. The Service Data Adaptation Protocol is not part of the control-plane Layer 2 stack: it is associated with user-plane QoS-flow mapping to data radio bearers. This separation reflects the 5G architecture's distinction between signaling radio bearers for control-plane traffic and data radio bearers for user-plane traffic. The NR protocol-stack descriptions and Layer 2 responsibilities are specified by 3GPP in TS 38.300, while Packet Data Convergence Protocol behavior is detailed in TS 38.323.

QUESTION NO: 25

Which module is used in the base station power system to monitor the power environment?

A. BDU

B. PSUs

C. ATS

D. PMU

ANSWER: D

Explanation:

PMU is correct because it is the Power Monitoring Unit used by a base-station power system to collect, supervise, and report information about the site power environment. It monitors operating conditions such as AC input status, rectifier and DC

output conditions, battery-related information, alarms, and connected environmental or dry-contact signals, then makes this information available to the base-station management and maintenance functions. This centralized monitoring enables operators to identify power faults, mains failures, abnormal battery conditions, and environmental alarms promptly, supporting reliable RAN site operation and remote maintenance. In Huawei power solutions, intelligent monitoring and management are integral to maintaining availability and improving the efficiency of telecom power infrastructure. The PMU is therefore the module whose primary role matches monitoring the power environment, rather than merely supplying, distributing, or transferring power. Huawei's Digital Power portfolio describes the importance of intelligent power-system management for communications infrastructure: Huawei Digital Power. Huawei's enterprise support portal provides the product documentation and technical references used for Huawei power and base-station equipment: Huawei Enterprise Support.