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600-210

Implementing Cisco Service Provider Mobility UMTS Networks (SPUMTS)

Version 1.0

**Exam A**

**QUESTION 1**

Which organization developed and maintains the Universal Mobile Telecommunications System?

- A. 3GPP2
- B. 3GPP
- C. ITU
- D. ANSI

**Correct Answer:** B

**Section:** (none)

**Explanation**

**Explanation/Reference:**

**QUESTION 2** Which two services does GPRS support?

(Choose two.)

- A. MMS
- B. SMS
- C. Video Calling
- D. EMM
- E. ESM

**Correct Answer:** AB

**Section:** (none)

**Explanation**

**Explanation/Reference:**



**QUESTION 3** Which part of the OSI model contains the Signalling Connection Control

Part protocol?

- A. Data link layer
- B. Network layer
- C. Transport layer
- D. Application layer
- E. Presentation layer

**Correct Answer:** B

**Section:** (none)

**Explanation**

**Explanation/Reference:**

**QUESTION 4** What two routing keys can be used to filter SS7 messages?

(Choose two.)

- A. DPC
- B. DPC [+SSN]
- C. IMEI
- D. MSISDN

E. IMEISV

**Correct Answer:** AB

**Section:** (none)

**Explanation**

**Explanation/Reference:**

**QUESTION 5** In MGT-based routing, which option is the GT address format of the called party?

- A. E.212
- B. E.164
- C. E.412
- D. E.214
- E. E.216

**Correct Answer:** D

**Section:** (none)

**Explanation**

**Explanation/Reference:**

**QUESTION 6** Which option lists the correct order of the SS7 routing flow in the Cisco ASR 5000 SGSN system?

- A. The call control profile is checked for any rejection, then the map-service is checked for any form of routing definitions. B. The map-service is checked for any form of routing definitions, then the call control profile is checked for any rejection.
- C. The call control profile is checked for any rejection, then the SGSN-Service is checked for any rejection.
- D. The SGSN service is checked for any rejection, then the call control profile is checked for any rejection.

**Correct Answer:** A

**Section:** (none)

**Explanation**

**Explanation/Reference:**

**QUESTION 7** What layer of the OSI model does the BSSAP+ protocol map to?

- A. Data link layer
- B. Network layer
- C. Transport layer
- D. Application layer

**Correct Answer:** D

**Section:** (none)

**Explanation**

**Explanation/Reference:**

**QUESTION 8** Which option lists the contents of the flow label in a GTPv0 header?

- A. IMSI and NSAPI

- B. MSISDN and NSAPI
- C. IMEI and NSAPI
- D. IMSI and Transaction Identifier
- E. IMEI and Transaction Identifier

**Correct Answer:** A

**Section:** (none)

**Explanation**

**Explanation/Reference:**

**QUESTION 9** In which three scenarios is a Create Session Request sent to the SGW?  
(Choose three.)

- A. Gn/Gp SGSN to S4 SGSN routing area update
- B. Gn/Gp SGSN to MME tracking area update procedure
- C. UE requested PDN connectivity
- D. UE triggered service request
- E. ready to STANDBY transition within the network
- F. network triggered service request procedure

**Correct Answer:** ABC

**Section:** (none)

**Explanation**

**Explanation/Reference:**



**QUESTION 10**

Which version of GTP supports piggybacking of GTP messages?

- A. GTPv0
- B. Gn-prime
- C. GTPv1
- D. GTPv2
- E. GTPv1-prime

**Correct Answer:** D

**Section:** (none)

**Explanation**

**Explanation/Reference:**

**QUESTION 11** In which three ways can a GTPv2 tunnel in each node of the UMTS/LTE network be identified?  
(Choose three.)

- A. TEID
- B. IP address
- C. UDP port number
- D. sequence number
- E. negotiated QoS per PDPF. negotiated QoS per PDN

**Correct Answer:** ABC

**Section:** (none)

**Explanation**

**Explanation/Reference:**

**QUESTION 12** In which two ways does SGSN detect and know when GGSN has restarted?

(Choose two.)

- A. change in recovery value in echo response
- B. change in recovery value in PDU notification request from GGSN to SGSN
- C. change in recovery value in Update PDP Context Request from GGSN to SGSN
- D. when the sequence number in a response message is different from that of the request message
- E. when the TEID value in response in GTP header is different from that of the request message

**Correct Answer:** AC

**Section:** (none)

**Explanation**

**Explanation/Reference:**

**QUESTION 13**

Which two services require a status check on the Cisco ASR 5000 if no Context Request Message is sent from SGSN to MME over the S3 interface? (Choose two.)

- A. EGTP-service
- B. SGSN-service
- C. HSS-peer-service
- D. SGTP-service
- E. SGS-service

**Correct Answer:** AB

**Section:** (none)

**Explanation**



**Explanation/Reference:**

**QUESTION 14** In which two scenarios is a create bearer request sent from the SGW to the SGSN on the S4 interface?

(Choose two.)

- A. secondary PDP context activation procedure
- B. network-requested secondary PDP context activation procedure
- C. network-triggered service request procedure
- D. when downlink data arrives for the released bearers
- E. PGW restart restoration procedure

**Correct Answer:** AB

**Section:** (none)

**Explanation**

**Explanation/Reference:**

**QUESTION 15** Which option describes how a PDN connection context is identified

at the PGW?

- A. IMSI and EPS bearer ID
- B. IMSI, EPS bearer ID, and interface type
- C. IMSI, QoS, and EPS bearer ID

D. MSISDN, QoS, and interface type

**Correct Answer:** B

**Section:** (none)

**Explanation**

**Explanation/Reference:**

**QUESTION 16** Which two functionalities does an update PDP context request sent from the GGSN to the SGSN provide?  
(Choose two.)

- A. Provide a PDP address to the MS.
- B. Check that the PDP context is active.
- C. Delete a PDP context from the SGSN.
- D. Establish a network-requested secondary PDP context activation procedure.
- E. Establish a network-requested primary PDP context activation procedure.

**Correct Answer:** AB

**Section:** (none)

**Explanation**

**Explanation/Reference:**

**QUESTION 17** Which two functions does the SGSN perform?  
(Choose two.)

- A. mobility management
- B. charging
- C. dynamic IP address allocation to a subscriber
- D. dynamic policy control
- E. deep packet inspection



**Correct Answer:** AB

**Section:** (none)

**Explanation**

**Explanation/Reference:**

**QUESTION 18** Which node is configured with a Network Mode of Operation value of 1 to be able to support combined attach and routing area update procedures?

- A. RNC
- B. GGSN
- C. S4-SGSN
- D. SIM
- E. HLR

**Correct Answer:** A

**Section:** (none)

**Explanation**

**Explanation/Reference:**

**QUESTION 19** Which option is the page response for a PS paging request in 2G access?

- A. service request with type "data"
- B. service request with type "page response"
- C. any uplink LLC PDU from MS/BSC
- D. any uplink BSSGP PDU from MS/BSC
- E. service request with type "signaling"

**Correct Answer:** C

**Section:** (none)

**Explanation**

**Explanation/Reference:**

**QUESTION 20** Which statement about the sgtp-service configuration on the Cisco ASR 5000 SGSN system is true?

- A. sgtp-service should be in the same context as sgsn-service.
- B. An operator policy configuration that associates the sgtp-service should be present.
- C. GTPC and GTPU bind address shall be different in the sgtp-service.
- D. sgtp-service can be associated with multiple GTPU services.
- E. Only one GTPC bind address can be present in the sgtp-service.

**Correct Answer:** E

**Section:** (none)

**Explanation**

**Explanation/Reference:**

**QUESTION 21** Which two configurations are required for narrow band SS7 configuration in the Cisco ASR 5000 system?

(Choose two.)

- A. link type configuration in the SS7 routing domain
- B. framing type configuration at the card level
- C. SCCP network association at the port level
- D. Iu-PS service association at the port level
- E. peer server configuration at the SS7 routing domain

**Correct Answer:** AB

**Section:** (none)

**Explanation**

**Explanation/Reference:**

**QUESTION 22** Which two options are benefits of Port Resource Pooling?

(Choose two.)

- A. allows for increased number of network-requested PDP activations
- B. reduces the number of GGSN initiated deactivate procedure
- C. provides resiliency
- D. reduces the signaling towards the SMSC
- E. reduces the number of inter-SGSN RAU procedures

**Correct Answer:** CD

**Section:** (none)

**Explanation**

**Explanation/Reference:**

**QUESTION 23** Through which two procedures does a direct tunnel session change to a two-tunnel session?  
(Choose two.)

- A. lu-release request procedure initiated by RNC
- B. GTPU-error indication by the RNC to the GGSN
- C. UE-initiated secondary PDP context activation
- D. successful GGSN-initiated PDP modification procedure
- E. successful UE-initiated PDP modification procedure
- F. periodic RAU procedure triggered by the UE

**Correct Answer:** AB

**Section:** (none)

**Explanation**

**Explanation/Reference:**

**QUESTION 24**

Which failure code is sent in the authentication reject message when a UE with USIM fails to receive the AUTN as part of the authentication and ciphering request from the SGSN?

- A. GSM authentication unacceptable
- B. MAC failure
- C. SYNC failure
- D. RAND failure
- E. UMTS authentication unacceptable

**Correct Answer:** A

**Section:** (none)

**Explanation**

**Explanation/Reference:**

**QUESTION 25** For inbound Inter-System RAU, which message sends the SGW change indication to the old SGSN?

- A. context request
- B. context response
- C. context acknowledgment
- D. modify bearer request
- E. modify bearer response

**Correct Answer:** C

**Section:** (none)

**Explanation**

**Explanation/Reference:**

**QUESTION 26**

How does an S4-SGSN identify a peer node as an SGSN or MME when GUTI-to-RAI mapping is unavailable?

- A. MSB of the LAC value
- B. MSB of the RAC value
- C. LSB of the LAC value





D. LSB of RAC value

**Correct Answer:** A

**Section:** (none)

**Explanation**

**Explanation/Reference:**

**QUESTION 27** Which action does an S4-SGSN take when it receives a secondary PDP context request from the UE?

- A. A bearer resource command is sent to the SGW.
- B. A create bearer request is sent to the SGW.
- C. A create session request is sent to the SGW.
- D. A create PDP context request is sent to the SGW.

**Correct Answer:** A

**Section:** (none)

**Explanation**

**Explanation/Reference:**

**QUESTION 28** Which two nodes implement the GTP-U protocol in a UMTS network?  
(Choose two.)

- A. Gateway GPRS Support Node
- B. Base Station Controller
- C. Radio Network Controller
- D. Home Location Registrar
- E. Mobility Management Entity
- F. Mobile Switching Center



**Correct Answer:** AB

**Section:** (none)

**Explanation**

**Explanation/Reference:**

**QUESTION 29** Which two options are functions of the Diameter base protocol?  
(Choose two.)

- A. offline billing
- B. policy control
- C. transporting CDRs
- D. streaming
- E. retrieving PDP context information

**Correct Answer:** AB

**Section:** (none)

**Explanation**

**Explanation/Reference:**

**QUESTION 30** Which two transport protocols does the Diameter base protocol run on?  
(Choose two.)

- A. UDP
- B. TCP
- C. DCCA
- D. SCTP
- E. GRE
- F. DCCP

**Correct Answer:** BD

**Section:** (none)

**Explanation**

**Explanation/Reference:**

**QUESTION 31** Which option describes how the Diameter relay agent routes messages to Diameter servers?

- A. based on IP address
- B. based on destination realm
- C. based on application used (Gx, Gy)
- D. based on source realm

**Correct Answer:** B

**Section:** (none)

**Explanation**

**Explanation/Reference:**

**QUESTION 32** In which two circumstances is Diameter Peer Discovery needed?

(Choose two.)

- A. The Diameter client is rejected by the peer.
- B. The Diameter client must contact a first-hop Diameter agent.
- C. The Diameter agent must reply to the connect request of a Diameter client.
- D. The Diameter agent must search the next agent so that Diameter messages can reach the Diameter server.
- E. The Diameter agent must close the session with a Diameter client.

**Correct Answer:** BD

**Section:** (none)

**Explanation**

**Explanation/Reference:**

**QUESTION 33**

Refer to the exhibit.



```
[local] ASR5500# show diameter peers full all
-----
Context: dia                Endpoint: cisco
-----
Peer Hostname: peer.cisco
Local Hostname: sessmgr.cisco
Peer Realm: cisco
Local Realm: cisco
Peer Address: 172.16.196.1:3868
Local Address: 192.168.47.15:47447
State: IDLE[TCP]
CPU:2/0                    Task: sessmgr
Messages Out/Queued: 0/0
Supported Vendor IDs: 10415,12645
Admin Status: Enable
```

The locally configured Diameter peer does not seem to be communicating with its remote peer. Which option describes the problem?

- A. Ports are not correctly configured.
- B. No common AVP was found during capabilities exchange procedure.
- C. The transport layer connection is not established.
- D. Diameter does not support TCP as a transport protocol.

**Correct Answer: C**  
**Section: (none)**  
**Explanation**

**Explanation/Reference:**



**QUESTION 34**

An airport is providing free one-hour mobile Internet service for passengers. At the end of the free one-hour service, the PCRF sends a Diameter command to the mobile packet core to stop the free service. Which Diameter command is sent by the PCRF?

- A. CCR-U
- B. RAR
- C. CCR-T
- D. STA
- E. RAA

**Correct Answer: B**  
**Section: (none)**  
**Explanation**

**Explanation/Reference:**

**QUESTION 35** In which two ways is GRE used in GGSN?

(Choose two.)

- A. to transport the subscriber traffic between MS and GGSN
- B. to transport AAA packets between GGSN and the service provider RADIUS server
- C. to transport AAA packets between GGSN and the corporate RADIUS server
- D. to transport the enterprise subscriber packets to the corporate gateway
- E. to transport the enterprise subscriber packets to the Internet

**Correct Answer: CD**

**Section: (none)**

**Explanation**

**Explanation/Reference:**

**QUESTION 36** Which IP protocol number is used by GRE?

- A. 41
- B. 47
- C. 14
- D. 51
- E. 57

**Correct Answer: B**

**Section: (none)**

**Explanation**

**Explanation/Reference:**

**QUESTION 37** Which option provides a secure connection between two endpoints as it encapsulates the IP payload?

- A. transport mode IPsec
- B. GRE
- C. Internet Key Exchange security association
- D. L2TP

**Correct Answer: A**

**Section: (none)**

**Explanation**

**Explanation/Reference:**

**QUESTION 38** Which MPLS/BGP functionality can the Cisco ASR 5000 GGSN run in a service provider network?

- A. provider edge router
- B. customer edge router
- C. autonomous system border router
- D. provider edge and customer edge
- E. provider router

**Correct Answer: B**

**Section: (none)**

**Explanation**

**Explanation/Reference:**

**QUESTION 39** Which three applications use IPsec?  
(Choose three.)

- A. PDN access
- B. MAP
- C. GTPv2



- D. Mobile IP
- E. L2TP – between GGSN acting as LAC and LNS
- F. L2TP – between LAC and LNS on same node
- G. Diameter

**Correct Answer:** ADE

**Section:** (none)

**Explanation**

**Explanation/Reference:**

**QUESTION 40** Which option describes the advantage of using L2TP over IPsec versus IPsec only?

- A. L2TP improves performance.
- B. The overhead that is introduced is lower.
- C. L2TP can transport protocols other than IP.
- D. L2TP provides Layer 2 VPN functionality.

**Correct Answer:** C

**Section:** (none)

**Explanation**

**Explanation/Reference:**

**QUESTION 41** Which option describes how IPsec is used for L2TP configuration on GGSN?



- A. IPsec encapsulated data is sent over the L2TP tunnel. B. L2TP encapsulated data is sent over the IPsec tunnel.
- C. L2TP references IPsec for forwarding decisions.
- D. IPsec encapsulated data is sent between MS and GGSN, and data between LAC (GGSN) and LNS is sent via L2TP tunnel.

**Correct Answer:** B

**Section:** (none)

**Explanation**

**Explanation/Reference:**

**QUESTION 42** According to 3GPP standards, which option is the interface between the Charging Data Function and the Charging Gateway Function?

- A. Gz
- B. Gc
- C. AAA
- D. Rf
- E. Ga

**Correct Answer:** E

**Section:** (none)

**Explanation**

**Explanation/Reference:**

**QUESTION 43**

During the network-initiated PDP activation procedure, which network entity provides the GGSN the address of the SGSN, which the subscriber is attached to?

- A. AAA
- B. OCS
- C. PCRF
- D. HLR

**Correct Answer:** D

**Section:** (none)

**Explanation**

**Explanation/Reference:**

#### QUESTION 44

Refer to the exhibit.

```
charging-action cg-1
  content-id 100
  cca charging-credit

ruledef icmp-any
  icmp any-match = true

rulebase rulebase-1
  action priority 100 ruledef icmp-any charging-action cg-1

credit-control group test
  diameter endpoint gy-1
  diameter send-ccri traffic-start
```



Which three Diameter AVPs are sent within the CCR-I request to the OCS? (Choose three.)

- A. Session-ID
- B. Used-Service-Unit
- C. Request-Service-Unit
- D. 3GPP-Quota-Consumption-Time
- E. Subscription-ID
- F. Event-Trigger

**Correct Answer:** ACE

**Section:** (none)

**Explanation**

**Explanation/Reference:**

#### QUESTION 45

When the failure handling mode is configured as Terminate, which behavior is expected on the GGSN when the OCS sends the diameter result code=4012 within the MSCC in CCA-U message?

- A. The GGSN retries sending the CCR-U to the secondary OCS if available, and then terminates the PDP.
- B. The GGSN terminates the PDP.
- C. The GGSN allows the PDP to continue as an offline session, which disables the Gy interface.
- D. The GGSN blacklists the rating group listed within the MSCC AVP.

**Correct Answer:** D

**Section: (none)**

**Explanation**

**Explanation/Reference:**

**QUESTION 46**

Which two AVPs will be sent by the GGSN within the CCR request when an update PDP request with IEs: NSAPI value 6 and Linked NSAPI value 5 is received? (Choose two.)

- A. Called-Station-ID
- B. Used-Service-Unit
- C. Bearer-ID
- D. Requested-Service-Unit
- E. Bearer-Operation= Modification

**Correct Answer: AC**

**Section: (none)**

**Explanation**

**Explanation/Reference:**

**QUESTION 47**

Refer to the exhibit.

```
charging-action cg-1
  content-id 100
  cca charging-credit
#exit

charging-action cg-2
  content-id 400
  cca charging credit rating-group 300 preemptively-request
#exit

charging-action cg-3
  content-id 500
#exit

charging-action cg-4
  content-id 200
  cca charging credit preemptively-request
#exit

ruledef icmp-any
  icmp any match = true
#exit

ruledef ip-any
  ip any-match = true
#exit

ruledef tcp-any
  tcp any-match = true
#exit

ruledef udp-any
  udp any-match = true
#exit

rulebase rulebase-1
  action priority 100 ruledef tcp-any charging-action cg-1
  action priority 200 ruledef udp-any charging-action cg-2
  action priority 300 ruledef icmp-any charging-action cg-3
  action priority 400 ruledef ip-any charging-action cg-4
#exit

credit-control group test
  diameter endpoint gy-1
  diameter send-ccri session-start
#exit
```



Which two rating groups would be included within the AVP Multiple-Services-Credit-Control within the CCR-I message by the Cisco ASR 5000 GGSN? (Choose two.)

- A. 100
- B. 400
- C. 300
- D. 200
- E. 500

**Correct Answer:** CD

**Section:** (none)

**Explanation**

**Explanation/Reference:**



**QUESTION 48** Which two parameters are used on the Cisco ASR 5000 GGSN to build the RADIUS authentication attribute Acct-Session-ID, sent within the RADIUS Disconnect-Request?  
(Choose two.)

- A. charging-ID
- B. IMSI
- C. RADIUS client IP address
- D. NSAPI
- E. framed-IP-address
- F. username

**Correct Answer:** AC

**Section:** (none)

**Explanation**

**Explanation/Reference:**

**QUESTION 49** When Wi-Fi offloading is enabled, which authentication protocol is used by the TTG over the Wm interface to authenticate/retrieve subscription information at the time of PDP activation?

- A. IPsec
- B. EAP
- C. SSL
- D. CHAP

**Correct Answer:** B

**Section:** (none)

**Explanation**

**Explanation/Reference:**



**QUESTION 50** Which description of a smurf attack is true?

- A. A smurf attack is an attack in which small TCP packets are sent toward a server from thousands of subscribers, which causes the server network buffer to overflow and drop packets and results in a denial of service.
- B. A smurf attack is an attack in which the attacker sends ICMP echo request packets using a spoofed source IP address destined to remote network broadcast addresses, which results in all recipients replying back to the spoofed source IP address in an attempt to cause a denial of service to the targeted spoofed IP address.
- C. A smurf attack is an attack in which the attacker sends UDP echo packets using a spoofed source IP address destined to remote network broadcast addresses, which results in all recipients replying back to the spoofed source IP address in an attempt to cause a denial of service to the targeted spoofed IP address.
- D. A smurf attack is an attack in which the attacker attempts to change the TCP MSS value to a small value for all TCP flows destined to the target device, which results in many small packets having to be processed by the target, which causes buffer overflows and denial of service.

**Correct Answer:** B

**Section:** (none)

**Explanation**

**Explanation/Reference:**

**QUESTION 51**

Your company has decided to implement URL blacklisting for the ACME company rulebase and discard any blacklisted matches found in subscriber HTTP traffic. Which configuration accomplishes this task?

- A. active-charging service acme\_acs url-blacklisting method exact-match rulebase acme\_rulebase url-blacklisting action discard
- B. active-charging service acme\_acs url-blacklisting method exact-match rulebase acme\_rulebase url-blacklisting action terminate-flow
- C. active-charging service acme\_acs url-blacklisting method http post url-blacklisting method http get rulebase acme\_rulebase url-blacklisting action discard
- D. active-charging service acme\_acs url-blacklisting method http post url-blacklisting method http get rulebase acme\_rulebase url-blacklisting action terminate-flow

**Correct Answer:** A

**Section:** (none)

**Explanation**

**Explanation/Reference:**

**QUESTION 52** Which option describes the ICAP protocol?

- A. ICAP is a protocol designed to enable inter-device communications for different vendor systems to share information about subscribers in a common format. ICAP allows for subscriber session control for actions such as sessiondisconnect and suspension.
- B. ICAP is a protocol designed to enable subscribers to communicate in a peer-to-peer network for file sharing purposes and is often used to circumvent upstream content filtering.
- C. ICAP is a communication access package consisting of a mixed platform of services such as web, FTP, and authentication. ICAP is used to minimize the deployment footprint and expedite new offerings for Internet service providers.
- D. ICAP is a protocol designed to support dynamic content filtering, insertion, and modification of web pages. ICAP allows interaction with external content servers such as parental control (content filtering) servers to provide content filteringservice support.

**Correct Answer:** D

**Section:** (none)

**Explanation**

**Explanation/Reference:**

**QUESTION 53**

Your company is adding additional subscriber IP network ranges and requires many-to-one NAT to be configured on the Cisco ASR 5000 for the subscriber IP network 10.11.23.0/24. The public IP range is 172.20.21.20 172.20.21.110, and each IP has no more than 100 subscribers. Which configuration option accomplishes this task?

- A. active-charging service ACS\_ACME access-ruledef apn\_cisco ip src-address = 10.11.23.0/24 fw-and-nat policy base\_1 access-rule priority 1 access-ruledef apn\_cisco permit nat-realm nat\_pool1 nat policy nat-required default-nat-realmnat\_pool1 rulebase acme\_rulebase fw-and-nat default-policy base\_1 context cisco ip pool nat\_pool1 range 172.20.21.20 172.20.21.110 napt-users-per-ip-address 100
- B. active-charging service ACS\_ACME access-ruledef apn\_cisco ip src-address = 10.11.0.0/16 fw-and-nat policy base\_1 access-rule priority 1 access-ruledef apn\_cisco permit nat-realm nat\_pool1 nat policy nat-required default-nat-realmnat\_pool1 rulebase acme\_rulebase fw-and-nat default-policy base\_1 context cisco ip pool nat\_pool1 range 172.20.21.20 172.20.21.110 napt-users-per-ip-address 1000
- C. active-charging service ACS\_ACME access-ruledef apn\_cisco ip src-address = 10.11.23.0/24 nat-and-pat policy nat\_1 access-rule priority 1 access-ruledef apn\_cisco permit nat-realm nat\_pool1 nat policy nat-required default-nat-realmnat\_pool1 context cisco ip pool nat\_pool1 range 172.20.21.20 172.20.21.29 napt-users-per-ip-address 100
- D. active-charging service ACS\_ACME access-ruledef apn\_cisco ip src-address = 10.11.23.0/24 fw-and-nat policy base\_1 access-rule priority 1 access-ruledef apn\_cisco permit nat-realm nat\_pool1 nat policy nat-required default-nat-realmnat\_pool1 rulebase acme\_rulebase fw-and-nat default-policy base\_1 context cisco ip pool nat\_pool1 range 172.20.21.20 172.20.21.29 napt-users-per-ip-address 100

**Correct Answer:** A

**Section:** (none)

**Explanation**

**Explanation/Reference:**

**QUESTION 54** Which option describes how DNS snooping is used on the Cisco ASR 5000?

- A. DNS snooping allows the Cisco ASR 5000 to snoop DNS query packets and compare against known DNS responses. If a match is found, the Cisco ASR 5000 replies to the query itself instead of forwarding the query to the destinationDNS server.
- B. DNS snooping allows the Cisco ASR 5000 to detect if a DNS response sent back to a subscriber is valid. If the response is invalid, the Cisco ASR 5000 drops the packet.
- C. DNS snooping allows the Cisco ASR 5000 to enable set of dynamic IP rules to be installed based on the response to DNS queries sent by a subscriber that matches a configured domain rule definition. Dynamic IP rules are created forthese IP entries within the same rule that has the domain name, which applies the same charging action to these dynamic rules.
- D. DNS snooping allows the Cisco ASR 5000 to enable set of dynamic domain rules to be installed based on the response to DNS queries sent by a subscriber that matches a configured domain rule definition. Dynamic domain rules arecreated for the DNS responses within the same rule that has the domain name, which applies the same charging action to these dynamic rules.

**Correct Answer:** C

**Section:** (none)

**Explanation**

**Explanation/Reference:**

**QUESTION 55** Which statement describes HTTP header enrichment and its uses?

- A. HTTP header enrichment allows the operator to define a policy that inserts x-header fields into HTTP POST or GET request packets to provide specific subscriber information such as IMSI or MSISDN to the HTTP server without changing the protocol.
- B. HTTP header enrichment is the process that allows HTTP headers to be compressed for optimal transfer across the network.
- C. HTTP header enrichment allows the operator to define a policy that detects the HTTP packet that requires header enrichment. If a match occurs, the policy drops the packet, modifies the packet inline with quality of service definitions, or creates a log message and forwards the packet unmodified.
- D. HTTP header enrichment is the process in which a HTTP packet is analysed for missing or partial header fields. If missing fields are detected or incomplete, the Cisco ASR 5000 can then take action to insert a new header, repair an existing header, create a log entry, and forward the packet.

**Correct Answer:** A

**Section:** (none)

**Explanation**

**Explanation/Reference:**

**QUESTION 56** Which two nodes are introduced as part of UMTS as defined by 3GPP standards?

(Choose two.)

- A. SGSN
- B. GGSN
- C. RNC
- D. VLR
- E. NodeB
- F. VLR



**Correct Answer:** CE

**Section:** (none)

**Explanation**

**Explanation/Reference:**

**QUESTION 57** What is the standard Subsystem Number for the Gf interface in the UMTS domain?

- A. 6
- B. 7
- C. 8
- D. 9

**Correct Answer:** D

**Section:** (none)

**Explanation**

**Explanation/Reference:**

**QUESTION 58** Which interface in the UMTS domain uses the BSSAP+ layer?

- A. Gs
- B. Gr
- C. Ge
- D. Ga

**Correct Answer:** A

**Section:** (none)

**Explanation**

**Explanation/Reference:**

**QUESTION 59** Into which state does a UE in a GPRS network move after the ready timer expires?

- A. idle state
- B. detached state
- C. suspended state
- D. ready state
- E. standby state

**Correct Answer:** E

**Section:** (none)

**Explanation**

**Explanation/Reference:**

**QUESTION 60** Which option describes the message that establishes the direct tunnel between RNC and GGSN?

- A. SGSN context request/response and modify PDP context request/response
- B. SGSN: Initiated update PDP context request/response and RAB assignment request/response
- C. GGSN: Initiated update PDP context request/response and RAB assignment request/response
- D. SGSN: Initiated update PDP context request/response and modify PDP context request/response



**Correct Answer:** B

**Section:** (none)

**Explanation**

**Explanation/Reference:**

**QUESTION 61** According to RFC 4006, for which two purposes is Diameter Control Credit Application designed? (Choose two.)

- A. authentication and authorization of access
- B. real-time content charging
- C. credit card payment authorization online
- D. credit authorization of prepaid users
- E. billing for postpaid users
- F. IMS core authorization
- G. collection of user statistics

**Correct Answer:** BE

**Section:** (none)

**Explanation**

**Explanation/Reference:**

**QUESTION 62** Which two options describe two reasons for deploying MPLS on GGSN? (Choose two.)

- A. Ensure faster routing.
- B. Replace RIP.
- C. Allow overlapping IP addressing in different APNs.
- D. Segregate corporate APN traffic.
- E. Replace GRE tunnels.

**Correct Answer:** CD

**Section:** (none)

**Explanation**

**Explanation/Reference:**

**QUESTION 63** Which three AVPs are needed to enable usage monitoring over Gx on the GGSN?

(Choose three.)

- A. Bearer-Identifier
- B. Monitoring-Key
- C. QoS-Information
- D. Granted-Service-Unit
- E. Usage-Monitoring-Level
- F. Usage-Monitoring-Support

**Correct Answer:** BDE

**Section:** (none)

**Explanation**

**Explanation/Reference:**



**QUESTION 64**

Your company wants to limit bandwidth for Skype traffic. You have been tasked to configure Application Detection and Control using the Cisco ASR 5000 to detect Skype traffic for all subscribers. If Skype traffic is detected, limit the uplink and downlink data rate to 32 kb/s.

Which required configuration is needed to complete this task?

- A. active-charging service ACS\_ACME p2p-detection protocol skype ruledef skype\_detection p2p protocol = skype exit charging-action skype\_rate\_limit content-id 1500 flow limit-for-bandwidth direction downlink peak-data-rate 32000 peak-burst- 8000 violate-action discard flow limit-for-bandwidth direction uplink peak-data-rate 32000 peak-burst- 8000 violate-action discard rulebase acme\_rulebase action priority 1000 ruledef skype\_detection charging-action skype\_rate\_limit
- B. active-charging service ACS\_ACME ruledef skype\_detection p2p protocol = skype exit charging-action skype\_rate\_limit content-id 1500 flow limit-for-bandwidth direction downlink peak-data-rate 16000 peak-burst- 8000 violate-action discard flow limit-for-bandwidth direction uplink peak-data-rate 16000 peak-burst- 8000 violate-action discard rulebase acme\_rulebase action priority 32000 ruledef skype\_detection charging-action skype\_rate\_limit
- C. active-charging service ACS\_ACME p2p-detection protocol skype ruledef skype\_detection p2p protocol = skype flow limit-for-bandwidth direction downlink peak-data-rate 32000 peak-burst- 8000 violate-action discard flow limit-for-bandwidth direction uplink peak-data-rate 32000 peak-burst- 8000 violate-action discard exit rulebase acme\_rulebase action priority 1000 ruledef skype\_detection
- D. active-charging service ACS\_ACME p2p-detection protocol skype ruledef skype\_detection p2p protocol = skype\_traffic exit charging-action skype\_rate\_limit content-id 1500 flow limit-for-credit direction downlink peak-data-rate 32000 peak-burst- 8000 violate-action discard flow limit-for-credit direction uplink peak-data-rate 32000 peak-burst- 8000 violate-action discard rulebase acme\_rulebase action priority 1000 ruledef skype\_detection charging-action skype\_rate\_limit

**Correct Answer:** A

**Section:** (none)

**Explanation**

**Explanation/Reference:**

**QUESTION 65**

DRAG DROP

Drag the GTP messages on the left to their procedure functionality on the right.

**Select and Place:**

create PDP context request	network-requested PDP context activation procedure
update PDP context request message	inter SGSN SRNS procedure
PDU notification request	GPRS modification procedure
SGSN context acknowledge	GPRS PDP context activation procedure
forward relocation request	inter SGSN routing area update procedure

**Correct Answer:**

create PDP context request	PDU notification request
update PDP context request message	forward relocation request
PDU notification request	update PDP context request message
SGSN context acknowledge	create PDP context request
forward relocation request	SGSN context acknowledge



**Section: (none)**  
**Explanation**

**Explanation/Reference:**

**QUESTION 66**  
DRAG DROP

Drag the interfaces on the left to match the criteria for GTPv2 control planes on the right.

**Select and Place:**

S4	The TEID-C shall be unique per PDN-connection.
S8	
S16	
S5	There shall be only one pair of TEID-Cs per UE.
S3	
S11	

Correct Answer:

S4	The TEID-C shall be unique per PDN-connection.
S8	S5
S16	S8
S5	There shall be only one pair of TEID-Cs per UE.
S3	S4
S11	S16
	S3
	S11

Section: (none)  
Explanation

Explanation/Reference:

QUESTION 67  
DRAG DROP

Drag the Diameter result code on the left to its matching description on the right.

Select and Place:

2001	Diameter AVP is unsupported.
3003	Diameter authentication is rejected.
4001	Diameter request is processed successfully.
5001	Diameter realm is not recognized.

Correct Answer:

2001	5001
3003	4001
4001	2001
5001	3003

Section: (none)  
Explanation

Explanation/Reference:



QUESTION 68  
DRAG DROP

Drag the protocol on the left to its port number on the right.

Select and Place:

FTP	22
HTTP	25
SMTP	80
DNS	53
SSH	21

Correct Answer:



FTP	SSH
HTTP	SMTP
SMTP	HTTP
DNS	DNS
SSH	FTP

Section: (none)  
Explanation

Explanation/Reference:

**QUESTION 69**  
DRAG DROP

Drag the SCCP Services on the left to match the corresponding protocol class on the right.

Select and Place:

Basic connection-oriented	Class 0
Error recovery and flow control connection oriented	Class 1
Basic connectionless	Class 2
Sequenced connectionless	Class 3
Flow control connection oriented	Class 4

Correct Answer:

Basic connection-oriented	Basic connectionless
Error recovery and flow control connection oriented	Sequenced connectionless
Basic connectionless	Basic connection-oriented
Sequenced connectionless	Flow control connection oriented
Flow control connection oriented	Error recovery and flow control connection oriented

Section: (none)  
Explanation

Explanation/Reference:

**QUESTION 70**

DRAG DROP

Drag and arrange the steps on the left in the correct order on the right that indicates how DPC+ SSN based routing in SGSN is performed on the Cisco ASR 5000.

Select and Place:

SS7 routing domain from the SCCP network is picked and point code in the SS7 RD is available	First
SCCP network in the map-service	Second
SSN service state is in-service in the SCCP network	Third
DPC in the SCCP network is accessible	Fourth

Correct Answer:

SS7 routing domain from the SCCP network is picked and point code in the SS7 RD is available	SCCP network in the map-service
SCCP network in the map-service	SS7 routing domain from the SCCP network is picked and point code in the SS7 RD is available
SSN service state is in-service in the SCCP network	DPC in the SCCP network is accessible
DPC in the SCCP network is accessible	SSN service state is in-service in the SCCP network

Section: (none)

Explanation

Explanation/Reference: