1. (True or false) When you configure an ACL, the rule increment is 5 by default, and this cannot be changed.

**Answer: False**

1. (True or false) To improve code modularization and utilization, the keyword class is defined.

**Answer: True**

1. (True or false) C/C++ is a compiled high-level programming language.

**Answer: True**

1. (True or false) An OpenFlow switch forwards packets based on the flow table and matches only the destination MAC address and destination IP address in the packets.

**Answer: False**

1. (True or false) iStack and CSS provide the same functions, despite their different names and implementation mechanisms.

**Answer: True**

1. (True or false) In the SDN architecture, the interface for communication between the controller and SDN-ready switch is a southbound interface.

**Answer: True**

1. (True or false) The IP address 10.0.10.63 and mask 255.255.255.224 indicate a broadcast address.

**Answer: True**

1. (True or false) An SDN network is characterized by centralized control, forwarding-control separation, and open interfaces.

**Answer: True**

1. (Single-answer question) After a DHCP client receives a DHCP ACK packet, if it finds that the assigned IP address already exists on the network, what type of packet does the DHCP client send to the DHCP server?

A. DHCP Request

B. DHCP Release

C. DHCP Inform

D. DHCP Decline

**Answer: D**

1. (Single-answer question) On an Ethernet switch, if a port running STP does not receive or forward data, receives but does not send BPDUs, and does not learn addresses, what state is the port in?

A. Blocking

B. Listening

C. Learning

D. Forwarding

**Answer: A**

1. (Single-answer question) Assume that a router has two routes destined for the network segment 100.120.10.0/24. The costs of these routes are 120 and 10, and their preferences are 10 and 150, respectively. Which of the following routes will be used for forwarding the data packets to the network segment 100.120.10.0/24?

A. Route with the cost of 120

B. Route with the cost of 10

C. Route with the preference of 10

D. Route with the preference of 150

**Answer: C**

1. (Single-answer question) Which of the following packets is used to terminate a PPPoE session?

A. PADI

B. PADO

C. PADR

D. PADT

**Answer: D**

1. (Single-answer question) Which of the following statements about the process of establishing a PPP link is false?

A. The physical layer is unavailable during the Dead phase. When two communicating devices detect that the physical link between them is activated, PPP enters the Establish phase from the Dead phase.

B. In the Establish phase, the two devices perform LCP negotiation to negotiate the maximum receive unit (MRU), authentication mode, and magic number.

C. In the Network phase, the two devices perform NCP negotiation to select and configure a network layer protocol and to negotiate network-layer parameters.

D. After NCP negotiation is successful, the PPP link maintains the communication state and enters the Terminate phase.

**Answer: D**

1. (Single-answer question) After NAPT is configured, some intranet IP addresses can still ping external networks, while some cannot. Which of the following is a possible cause?

A. The ACL is incorrectly configured.

B. The NAT address pool has only one address.

C. The device configured with NAT has insufficient performance.

D. The NAT configuration does not take effect.

**Answer: A**

1. (Single-answer question) An unconfigured router is connected to an OSPF network through multiple interfaces. After OSPF is enabled on all these interfaces, the router learns OSPF routes on the network. If the ospf cost 256 command is run on an OSPF interface of the router and other configurations remain unchanged, which of the following statements about this configuration is correct?

A. This configuration may change the forwarding path of data packets.

B. This configuration does not change the forwarding path of data packets.

C. This command does not take effect because the command input is incorrect.

D. This command does not take effect because the maximum cost is 255.

**Answer: A**

1. (Single-answer question) Two routers are connected through serial ports and the link layer protocol is PPP, but the MRU values on the two ends of the PPP link are different. Which of the following statements about PPP LCP negotiation is true?

A. LCP negotiation fails.

B. The smaller MRU value will be used according to the LCP negotiation.

C. The larger MRU value will be used according to the LCP negotiation.

D. The standard MRU value of 1500 will be used according to the LCP negotiation.

**Answer: B**

1. (Single-answer question) Which of the following statements about the access and trunk ports is true?

A. A trunk port can forward both tagged and untagged data frames.

B. An access port cannot process tagged data frames.

C. A trunk port only sends tagged data frames.

D. An access port can process data frames from multiple VLANs.

**Answer: A**

1. (Single-answer question) Client A and server B set up a TCP connection. In the three-way handshake, server B sends a SYN-ACK packet (seq = b, ack = a+1) to client A. Which of the following statements is true?

A. The SYN-ACK packet is the acknowledgment for the SYN packet with the sequence number being a+1.

B. The SYN-ACK packet is the acknowledgment for the SYN packet with the sequence number being b.

C. Server B wants to receive an ACK packet with the sequence number being a+1.

D. Server B wants to receive an ACK packet with the sequence number being b.

**Answer: C**

1. (Single-answer question) If you enter the first several letters of a keyword in a command, which of the following shortcut keys can be pressed to complete the command?

A. Ctrl+C

B. Tab

C. Enter

D. Space

**Answer: B**

1. (Single-answer question) There are two hops from the source device to the destination device. The tracert command is used to discover the path. When the first hop is detected, the source device sends a UDP packet with the TTL value of 1 to an interface with a larger interface number on the destination device. When the packet reaches the intermediate device, the TTL value becomes 0. In this case, which of the following ICMP messages will the intermediate device send to the source device?

A. Time Exceeded

B. Echo Request

C. Echo Reply

D. Port Unreachable

**Answer: A**

1. (Single-answer question) A network administrator runs the tracert command to trace the path to an external website server, but only \* is displayed. Which of the following is a possible cause?

A. The ICMP function is disabled on a router.

B. The destination IP address does not exist.

C. This is normal.

D. The gateway has no reachable route to the destination network.

**Answer: C**

1. (Single-answer question) Which of the following methods can be used to enable an AP to establish tunnels with two ACs to improve reliability?

A. Device stacking

B. Link aggregation

C. Dual-link backup

D. Device cluster

**Answer: C**

1. (Single-answer question) Which of the following radio waves has the shortest wavelength?

A. Very high frequency

B. Ultra-high frequency

C. Ultra-low frequency

D. High frequency

**Answer: B**

1. (Single-answer question) Which of the following statements about DD packets and LSAs in OSPF is false?

A. A DD packet contains detailed LSA information.

B. A DD packet contains only the header of an LSA.

C. An LSA header uniquely identifies an LSA.

D. An LSA header is only a part of an LSA.

**Answer: A**

1. (Single-answer question) The remote login function is configured for a device as follows: </br>[Huawei]user-interface vty 0 4</br> Which of the following statements about vty 0 4 is true?

A. This is a fixed command for configuring remote login and cannot be modified.

B. A maximum of four users are allowed to access the network at the same time.

C. A maximum of five users are allowed to access the network at the same time.

D. Only one user can remotely log in to a device at any one time.

**Answer: C**

1. (Single-answer question) Which of the following is not a correct IPv6 address?

A. 2001:2ef4::33::1234/64

B. 2001::1234/64

C. FE80::/64

D. 2001::192.168.1.2/64

**Answer: A**

1. (Single-answer question) Which of the following is used to distinguish between TCP connections?

A. Port number

B. Port number and IP address

C. Port number and MAC address

D. IP address and MAC address

**Answer: B**

1. (Single-answer question) Which of the following statements about stateless IPv6 address autoconfiguration is false?

A. The configuration is plug-and-play, requiring no manual operations.

B. Automatic configuration is supported for both hosts and routers.

C. The DHCP function must be enabled on a router.

D. Multiple IP addresses can be configured to achieve seamless network migration.

**Answer: B**

1. (Single-answer question) Which of the following is not an application-layer protocol?

A. FTP

B. Telnet

C. SMTP

D. ARP

**Answer: D**

1. (Single-answer question) Which of the following subnet masks can also be represented as /22?

A. 255.255.240.0

B. 255.255.128.0

C. 255.255.192.0

D. 255.255.252.0

**Answer: D**

1. (Single-answer question) Which of the following subnet masks can be configured to make 192.168.0.94 and 192.168.0.116 on the same network segment?

A. 255.255.255.192

B. 255.255.255.224

C. 255.255.255.240

D. 255.255.255.248

**Answer: A**

1. (Single-answer question) Which of the following statements about OSPF area division is true?

A. OSPF must have a backbone area.

B. Two backbone areas that are not physically adjacent can be connected by a virtual link.

C. On an OSPF network, the non-backbone areas cannot be divided physically.

D. A router supports a maximum of 65535 OSPF areas.

**Answer: B**

1. (Single-answer question) The routing table of a device has two entries: 192.168.20.16/28 and 192.168.0.0/16. When we search this routing table for an optimal route based on the address 192.168.20.19, which of the following statements is true about how the optimal route is selected?

A. Preferentially match the route with a smaller preference value.

B. Preferentially match the route with a smaller cost.

C. Preferentially match the route with a shorter subnet mask length.

D. Preferentially match the route with a longer subnet mask length.

**Answer: D**

1. (Multiple-answer question) When two switches are connected using link aggregation technology, which of the following conditions are required for each member interface?

A. The numbers of connected physical interfaces on the switches are the same

B. The rates of connected physical interfaces on the switches are the same.

C. The connected physical interfaces of the switches work in the same duplex mode.

D. The physical serial numbers of connected physical interfaces on the switches are the same.

**Answer: ABC**

1. (Multiple-answer question) Which of the following statements about Easy IP are true?

A. Easy IP is a special type of NAPT.

B. When configuring Easy IP, you do not need to configure ACLs to match the packets to be translated by NAT.

C. Easy IP does not require a NAT address pool to be configured.

D. Easy IP is applicable to the scenario where a NAT device dials up or dynamically obtains a public IP address.

**Answer: ACD**

1. (Multiple-answer question) Which of the following statements about PAP authentication are true?

A. PAP is a two-way handshake protocol.

B. In PAP, the user name is in plaintext, and the password is in ciphertext.

C. In PAP, the user name is in ciphertext, and the password is in plaintext.

D. In PAP, both the user name and password are in plaintext.

**Answer: AD**

1. (Multiple-answer question) Which of the following steps are involved in the basic Layer 2 forwarding process of an Ethernet switch?

A. The switch adds a MAC address entry or update an existing one based on the source MAC address and VLAN ID of a received Ethernet frame.

B. The switch searches the MAC address table for the destination MAC address of the frame. If no matching entry is found, the switch broadcasts the frame in the corresponding VLAN.

C. If a matching entry is found but the corresponding port does not belong to the VLAN of the frame, the switch discards this frame.

D. If a matching entry is found and the corresponding port belongs to the VLAN of the frame, the frame is forwarded out of this port. If the matching port is the same as the port that receives the Ethernet frame, the frame is discarded.

**Answer: ABCD**

1. (Multiple-answer question) On which of the following layers does NAPT translate information in data packets?

A. Data link layer

B. Network layer

C. Transport layer

D. Application layer

**Answer: BC**

1. (Multiple-answer question) Which of the following conditions does an advanced ACL define rules based on?

A. Source or destination IP address

B. Source or destination port number

C. Source or destination MAC address

D. Protocol type

**Answer: ACD**

1. (Multiple-answer question) A host on a private network needs to access the Internet. To meet this requirement, which of the following configurations is required on the edge router of the private network?

A. NAT

B. DHCP

C. ACL

D. Default route

**Answer: ACD**

1. (Multiple-answer question) A default route exists in the routing table on a router. Its next hop is the S0/0 interface on the router. Which of the following statements about the default route are true?

A. When the router receives a packet destined for 120.1.1.1, the packet matches the default route if there is no exact match in the routing table.

B. The mask of the default route is the shortest. Therefore, data packets are forwarded through the default route only when they match no other routes.

C. The metric of the default route may be 3.

D. The preference of the default route may be 100.

**Answer: ABCD**

1. (Multiple-answer question) Which of the following statements about NAT technology are true?

A. NAT saves a large number of public IP addresses.

B. NAT implements the mapping between private and public IP addresses.

C. NAT is mainly applied to egress devices of enterprise networks.

D. NAT is generally applied to the access layer.

**Answer: ABC**

1. (Multiple-answer question) Which of the following statements about STP state changes of a port are true?

A. The port enters the Disable state after being disabled.

B. The port transitions from Listening to Forwarding state after it learns MAC addresses.

C. The port transitions from Learning to Forwarding state after it learns MAC addresses.

D. The port transitions from Forwarding to Disable state after being elected as a blocked port.

**Answer: AC**

1. (Multiple-answer question) Which of the following packet types are supported by OSPF?

A. Hello

B. DD

C. LSR

D. LSU

E. LSA

**Answer: ABCD**

1. (Multiple-answer question) What are the functions of Hello packets in OSPF?

A. OSPF selects the DR and BDR based on Hello packets.

B. Hello packets are sent periodically to discover and maintain OSPF neighbor relationships.

C. Hello packets are transmitted in the entire area.

D. If a device does not receive Hello packets from its neighbor for a period of time, it will disconnect the neighbor relationship.

**Answer: ABD**

1. (Multiple-answer question) What are the functions of gratuitous ARP?

A. Checks duplicate IP addresses: In normal cases, a device does not receive an ARP Reply packet. If the device receives an ARP Reply packet, another device is using the same IP address.

B. Advertises a new MAC address: If the MAC address of a device changes because its network adapter is replaced, the device sends a gratuitous ARP packet to notify all devices of the change before the ARP entry is aged out.

C. Detects connectivity with the gateway when a host communicates with the gateway.

D. Notifies other devices of an active/standby switchover in a VRRP group.

**Answer: ABD**

1. (Multiple-answer question) Which of the following statements are true regarding the MAC address learning mechanism of a switch?

A. The MAC address learning function is enabled on a switch by default.

B. A switch automatically learns the source MAC addresses of packets received on interfaces, and generates MAC address entries.

C. The MAC address learning function can be disabled on a switch.

D. The MAC address learning mechanism of a switch can be based on destination MAC addresses.

**Answer: ABC**

1. (Multiple-answer question) A terminal checks the destination MAC address in the header of a received data frame. Which of the following destination MAC addresses are allowed by the terminal?

A. Terminal's MAC address

B. Multicast MAC address

C. Multicast MAC address listened by the terminal

D. Broadcast MAC address

**Answer: ACD**

1. (Multiple-answer question) Which of the following IP addresses can be allocated to hosts?

A. 192.168.100.255/22

B. 192.168.100.64/26

C. 192.168.100.100/30

D. 192.168.100.100/25

**Answer: AD**

1. (Multiple-answer question) Which of the following statements about WLAN Layer 2 and Layer 3 networking modes are true?

A. The Layer 2 networking is applicable to large-sized networks.

B. The Layer 2 networking is easy to deploy.

C. The Layer 3 networking is applicable to small- to medium-sized networks.

D. The Layer 3 networking is complex to deploy.

**Answer: BD**