

1. Software-defined networking (SDN) is a new type of network architecture originally proposed by the Clean Slate research team at Stanford University. SDN has three characteristics: forwarding-control separation, centralized control, and open programmable interfaces.  
a) **True** ✓  
b) False
2. FTP is file transfer protocol and works in active or passive mode.  
a) **True** ✓  
b) False
3. To prevent out-of-order packets, it is recommended that Eth-Trunk use flow-based load balancing  
a) **True** ✓  
b) False
4. The vlan batch 4 10 command is used to create VLAN 4 and VLAN 10  
a) True  
b) **False** ✓
5. Segment Routing (SR) provides an innovative traffic steering method. It divides a network path into segments and allocates segment IDs (SIDs) to these segments. The segments and nodes are sequentially arranged into a segment list to form a forwarding path.  
a) **True** ✓  
b) False
6. Static routes and OSPF routes can form equal-cost routes  
a) True  
b) **False** ✓
7. In STP, a non-root-bridge switch can have two root ports  
a) True  
b) **False** ✓
8. Before sending an IPv6 packet, an interface performs the following operations in this order: address configuration, address resolution, and duplicate address detection (DAD)  
a) True  
b) **False** ✓

9. When two static routes work as the primary and backup routes, the preference of the backup route can be changed to the same as that of the primary route so that the two routes become equal-cost routes
- a) **True** ✓
  - b) False
10. Specific routes can be summarized into a summary route only when they have the same next-hop address
- a) **True** ✓
  - b) False
11. Which of the following statements about BPDUs in STP is false?
- a) TCN BPDUs are triggered only when the network topology changes
  - b) BPDUs are classified into configuration BPDUs and TCN BPDUs
  - c) A configuration BPDU contains parameters such as the bridge ID, path cost, and port ID
  - d) **When the network topology becomes stable, all switches proactively send configuration BPDU** ✓
12. IPv6 addresses can be classified into three types based on IPv6 address prefixes. Which of the following is not an IPv6 address type?
- a) Multicast address
  - b) **Broadcast address** ✓
  - c) Anycast address
  - d) Unicast address
13. Which of the following is not a method for an AP to discover an AC address?
- a) DHCP
  - b) Broadcast
  - c) Static configuration
  - d) **OSPF** ✓
  - e) DNS
14. The ping and traceroute commands are used to check the network status. Which of the following statements about the ping and traceroute commands is false?
- a) The ping command can be used to check connectivity to a destination address
  - b) The source IP address of packets to be sent can be specified in the command
  - c) **The ping -s source-ip-address destination-ip-address command is used to specify the source and destination IP addresses of ICMP Echo Request packets.** ✓
  - d) The traceroute command can be used to check the gateways that packets pass through before reaching the destination

15. Which of the following statements is false about Control and Provisioning of Wireless Access Points (CAPWAP)?
- a) CAPWAP transmits two types of messages at the transport layer: service data and management traffic
  - b) CAPWAP is used to maintain the connectivity between Aps and an AC
  - c) When tunnel forwarding is used, an AP exchanges data with an AC through a CAPWAP tunnel
  - d) CAPWAP is an application layer protocol based on TCP ✓
16. Refer to the following configuration on a switch:
- ```
[Huawei]vlan batch 2 to 9 10
```
- Which of the following statements is true about this command?
- a) The command is incorrect. As a result, the VRP will report an error when this command is run
  - b) VLANs 2 to 10 will be created on the switch ✓
  - c) VLANs 2, 9, and 10 will be created on the switch
  - d) VLANs 2 through 910 will be created on the switch
17. Which of the following statements about STP and RSTP is false?
- a) RSTP is backward compatible with STP
  - b) There are five STP port states: Forwarding, Learning, Listening, Blocking, and disabled
  - c) RSTP converges faster than STP
  - d) There are three RSTP port states: Forwarding, Learning, and Blocking ✓
18. SNMP is used to manage network devices. Refer to the following SNMP configuration on a Huawei device. Which of the following statements is false?
- ```
[Huawei] display current-configuration | include snmp
snmp-agent
snmp-agent local-engineid 800007DB03001974593301
snmp-agent sys-info version v3
snmp-agent mib-view included iso-view iso
snmp-agent group v3 v3group privacy read-view iso-view write-view notify-view iso-view
snmp-agent usm-user v3 v3user
snmp-agent usm-user v3 v3user group v3group
snmp-agent usm-user v3 v3user authentication-mode sha cipher %^%#&Ygn:NzQw;d>f=2+aJ;;=B\IM^'P1Hf/{L$F9UW@%^%#
snmp-agent usm-user v3 v3user privacy-mode aes256 cipher %^%#&Ygn:NzQw;d>f=2+aJ;;=B\IM^'P1Hf/{L$F9UW@%^%#
snmp-agent usm-user v3 v3user
```
- a) SNMPv3 is configured

- b) SNMP packets will be encrypted using AES256
- c) The v3user user can access nodes in the subtree with iso as the root node
- d) The encryption mode of the v3user user is SHA ✓**

19. Mastering the basic operations of the file system is crucial for network engineers to efficiently manage the configuration files and VRP system files of devices. Which of the following statements is true about these files?

- a) A configuration file stores configuration commands. The common file name extension is .cc.
- b) A batch file is a type of software compatible with the system software. The common file name extensions is .zip.
- c) A PAF file effectively controls product features. The common file name extension is .bin ✓**
- d) System software is mandatory for device startup and running. The common file name extensions is .cfg.

20. Which of the following statements about edge ports is false?

- a) If an edge port receives a configuration BPDU, it becomes a common STP port
- b) In most cases, edge ports are directly connected to user terminals
- c) It takes 15 seconds for an edge port to change from the Disabled state to the Forwarding state. ✓**
- d) In normal situations, an edge port cannot receive configuration BPDUs.

21. Refer to the following ACL configuration on a device. Which of the following statements is true?

#

time-range satime 08:00 to 17:30 working day

#

Acl number 3002

Rule 5 permit ip source 10.164.2.0 0.0.0.255 destination 10.164.9.9 0.0.0.225 time-range satime

- a) This ACL is a user ACL according to the ACL classification rules
- b) All packets with the source IP addresses on the network segment 10.164.2.0/24 will be permitted by the device.
- c) The ACL rule takes effect only on working days. ✓**
- d) This ACL is a basic ACL according to the ACL classification rules.

22. The MAC address table of a switch is as follows:

00-01-02-03-04-AA G0/0/1

00-01-02-03-04-CC G0/0/3

A data frame with the destination MAC address 00-01-02-03-04-BB is received on G0/0/1, and another data frame with the destination MAC address 00-01-02-03-04-CC is received on G0/0/3. How does the switch process the two data frames?

**a) Floods the first frame and discards the second frame. ✓**

b) Forwards the first frame and discards the second frame.

c) Floods the first frame and forwards the second frame.

d) Forwards the first frame and floods the second frame.

23. OSPF authentication enables a device to encrypt OSPF packets by adding an authentication field to the packets, ensuring network security. Which of the following statements about OSPF authentication is false?

**a) The authentication modes of two OSPF neighbors must be the same, that is, both of them either use interface authentication or use area authentication. ✓**

b) OSPF authentication is classified into area authentication and interface authentication

c) Area authentication applies to the packets received on all the interfaces in a specific area

d) Interface authentication is configured in the interface view and applies to all the packets received on the interface.

24. Dynamic routing protocols can be classified into Interior Gateway Protocol (IGP) and Exterior Gateway Protocol (EGP) according to their working area. Which of the following protocols is an EGP?

a) OSPF

b) IS – IS

**c) BGP ✓**

d) RIP

25. In STP, which of the following values cannot be set as the bridge priority?

**a) 22528 ✓**

b) 16238

c) 0

d) 8192

26. The following shows partial OSPF neighbor information for a specific routing:

OSPF Process 1 with Routing ID 10.1.1.3

Neighbors

Area 0.0.0.0 interface 10.1.1.3 (GigabitEthernet0/0/0)s neighbors

Routing ID: 10.1.1.1 Address: 10.1.1.1

State: Full Mode: Nbr is Slave Priority:1

DR: 10.1.1.5 BDR: 10.1.1.1 MTU:0

Dead timer due in 35 sec

Retrans times interval:5

Neighbor is up for 00:02:01

Authentication Sequence: [0]

Which of the following statements is false?

- a) The routing ID of following statements is false?
- b) The routing is the slave router in the master – slave relationship ✓**
- c) The preceding information is about the neighbor relationship of the router and BDR router
- d) The router is a DR-other router.

27. The process for an AP to go online is as follows: The AP sends a Join Request packet to an AC, which then authenticates the AP after receiving the packet. The AP gets managed after being successfully authenticated. Which of the following AP authentication methods is not supported by an AC?

- a) MAC address authentication
- b) Password authentication ✓**
- c) Non-authentication
- d) Serial number authentication

28. Refer to the following AAA configuration on a device. Which of the following statements is true?

[R1-aaa] display this

[V200R003C00]

#

Aaa

Authentication-scheme default

Authorization-scheme default

Accounting-scheme default

Domain default

Domain default\_admin

Local-user Huawei password cipher %\$%\$m]Gr

Local-user Huawei privilege level 0

Local-user Huawei service-type telnet

#

- a) The Huawei user can log in to the device through SSH
- b) The Huawei user can run the the display current-configuration command
- c) The authorization scheme is default and the authorization mode is non-authorization
- d) The authentication mode is local authentication ✓**

29. The Network Configuration Protocol (NETCONF) provides a mechanism for managing network devices. Which of the following statements about NETCONF is false?

- a) Yet Another Next Generation (YANG) is a data modeling language that standardizes NETCONF data content.
- b) NETCONG messages are formatted using either JSON or XML ✓**
- c) NETCONF supports trial runs and rollback in case of errors.
- d) If YANG files are not integrated into a device, the device does not support NETCONF

30. The Point-to-Point Protocol (PPP) is a common data link layer protocol for wide area networks (WANs). Which of the following statements about PPP is false?

- a) The establishment of a PPP link goes through three phases: link layer negotiation, network layer negotiation, and authentication. ✓**
- b) PPP supports the Password Authentication Protocol (PAP) and Challenge-Handshake Authentication Protocol (CHAP)
- c) PPP uses the Link Control Protocol (LCP) to negotiate link control layer parameters.
- d) If PPP uses password authentication mode, negotiation packets are transmitted in plain text, which is insecure.

31. In the TCP/IP reference model, network layer protocols are responsible for sending packets from the source host to the destination host. Which of the following protocols is not a network layer protocol?

- a) PPP ✓**
- b) IPv4
- c) ICMP
- d) IGMP

32. The establishment of an OSPF adjacency between device involves four steps. Which of the following statements about these steps is true?

- a) The devices establish bidirectional neighbor relationships, negotiate the master/slave relationship, exchange LSAs, update LSAs, and synchronize their LSDBs. ✓**
- b) The devices negotiate the master/slave relationship, exchange LSAs, establish bidirectional neighbor relationships, update LSAs, and synchronize their LSDBs.

- c) The device exchange LSAs, negotiate the master/slave relationship, establish bidirectional neighbor relationships, update LSAs, and synchronize their LSDBs.
  - d) The devices negotiate the master/slave relationship, establish bidirectional neighbor relationships, exchange LSAs, update LSAs, and synchronize their LSDBs.
33. If the PVID of a trunk port on a switch is 10 and the port trunk allow-pass vlan 7 9 command is configured on the port, which of the following statements is true?
- a) Data frames of VLANs 7,8, and 9 can be transmitted on a trunk link
  - b) Data frames of VLANs 1,7, and 9 can be transmitted on a trunk link ✓**
  - c) Data frames of VLANs 1,7,8, and 9 can be transmitted on a trunk link
  - d) Data frames of VLANs 7,8,9, and 10 can be transmitted on a trunk link
34. Which of the following commands can be used to check OSPF LSDB information on a Huawei device?
- a) Display ospf routing
  - b) Display ospf brief
  - c) Display ospf peer
  - d) Display ospf lsdb ✓**
35. Refer to the following configuration on a Huawei router.
- ```
<huawei> system-view  
[huawei] user-interface maximum-vty 7
```
- Which of the following statements is true?
- a) The router allows a maximum of seven users to log in concurrently through the console port.
  - b) If a user forgets the system login password, the user will be locked out after seven consecutive failed login attempts
  - c) The router allows a maximum of seven users to log in concurrently through the asynchronous serial port.
  - d) The router allows a maximum of seven users to log in concurrently through Telnet. ✓**
36. NTP is a network protocol used to synchronize computer clocks with an NTP server. Which of the following statements about NTP is false?
- a) NTP packets are transmitted through UDP.
  - b) NTP is a network layer protocol in the TCP/IP protocol suite. ✓**
  - c) The stratum indicates the hierarchy for clock synchronization. The value 1 indicates the highest clock precision.
  - d) The master time server directly synchronizes with the standard reference clock through cables or radio signals.



37. An IPv6 address is 128 bits long. Typically, an IPv6 address is represented by eight groups of 16-bit hexadecimal values separated by colons (:). Which of the following statements about IPv6 addresses is false?
- a) A global unicast address (GUA) is globally unique.
  - b) There may be ULA conflicts in a global scope.
  - c) **Each IPv6 interface must have a unique local address (ULA)** ✓
38. What is the valid VLAN ID range?
- a) 1 to 4095
  - b) 0 to 4094
  - c) 0 to 4095
  - d) **1 to 4094** ✓
39. In the same Ethernet network segment, five routers are running OSPF for interconnection. When the protocol status of all routers is stable, which of the following statements is true?
- a) **The neighbor status of a router on the network can only be Full or 2-way** ✓
  - b) The neighbor status of all routers is Full
  - c) There are routers of which all neighbor relationships are in 2-way state on the network
  - d) The neighbor relationship between a DR router and another router can be Full or 2-way.
40. An AC manages and controls Aps in a centralized manner through CAPWAP tunnels. An AP sends a Discovery Request packet to find an available AC. Which of the following methods cannot be used by an AP to discover an AC?
- a) **Multicast** ✓
  - b) Static configuration
  - c) DHCP
  - d) DNS
41. ACLs are used to match and distinguish packets. Which of the following information can be used to define ACL rules?
- a) **Source and destination IP addresses of IPv4 packets** ✓
  - b) **Source and destination MAC addresses** ✓
  - c) **VLAN ID** ✓
  - d) **Protocol type of Ethernet frames** ✓
42. The concept of Network Functions Virtualization (NFV) was proposed by a group of network service providers to solve problems such as too much telecom network hardware, complex deployment and O&M, and difficult service innovation. Which of the following components are included in the standard NFV architecture?
- a) **MANO** ✓

- b) VNF ✓
- c) OS
- d) NFVI ✓

43. In contrast with SNMPv1, which of the following operations are newly added to SNMPv2c?
- a) **GetBulkRequest** ✓
  - b) **InformRequest** ✓
  - c) GetNextRequest
  - d) SetRequest
44. A router can advertise default routes in an OSPF area. Which of the following statements about OSPF default route advertisement are false?
- a) The default-route-advertise command can be used to advertise a default route in an OSPF area only when the default route exists on the local device.
  - b) **The preference of the advertised default route in the routing table is 10.** ✓
  - c) **After learning the default router advertised by the router, other routers in the same OSPF area as the router must add this route to their routing tables** ✓
  - d) If there is no default router on the local device, the default-route-advertise always command can be run to advertise a default route in an OSPF area.
45. For IPv6 address 2000:002A:0000:0000:0000:000A:020C:023D, which of the following comply with the address abbreviation rules?
- a) 2000:2a:0:0:0:A:2C:23D
  - b) **2000:2A:0:0:0:A:20C:23D** ✓
  - c) 2000:2A::A2C:23D
  - d) **2000:2A::A:20C:23D** ✓
46. Which of the following statements are false about the forwarding behavior of access ports on a switch?
- a) **When an access port of the switch sends an untagged data frame, the port adds its default VLAN ID to the frame** ✓
  - b) When an access port of the switch receives an untagged data frame, the port adds its default VLAN ID to the frame
  - c) When an access port of the switch receives a data frame carrying the same tag as the default VLAN ID of the port, the port accepts the frame
  - d) **When an access port of the switch receives a data frame carrying the same tag as the default VLAN ID of the port, the port discards the frame** ✓
47. Which of the following statements about OSPF areas are true?

- a) OSPF areas can be classified into backbone areas and non-backbone areas ✓
- b) Route summarization can be performed at the border of two OSPF areas to reduce the size of the routing table ✓
- c) The OSPF multi-area design can reduce the LSA flooding scope ✓
- d) OSPF multi-area improves network scalability and facilitates the construction of large-scale networks. ✓

48. Refer to the following configuration on the VTY user interface 0. When a user logs in to the system through VTY 0, which of the following statements are true?

```
<huawei> system-view
```

```
[huawei] user-interface vty 0
```

```
[Huawei-ui-vty0]user privilege level 2
```

- a) The user can use the debugging command to diagnose service faults
- b) The user can use the ping and traceroute commands ✓
- c) The user can use some display commands ✓
- d) The user can use service configuration commands, including configuration commands ✓

49. Which of the following statements about IP addresses and MAC addresses are true?

- a) MAC addresses are assigned based on vendors ✓
- b) IP addresses are assigned based on the network topology ✓
- c) MAC addresses are unchangeable ✓
- d) IP addresses are unchangeable

50. Which of the following are possible causes for an APs failure to do online?

- a) PoE parameters are incorrectly configured on the PoE switch to which the AP is connected ✓
- b) The AC version does not match the AP version ✓
- c) The link between the AC and AP is not established ✓
- d) Network cables are not properly connected ✓

51. Which of the following are advantages of switch stacking and clustering?

- a) Simplifies network management ✓
- b) Improves network reliability ✓
- c) Improves the performance of single switches
- d) Simplifies network structure ✓

52. Which of the following statements about OSPF router IDs are true?

- a) To ensure protocol stability, it is recommended that the network administrator manually configure a router ID for an OSPF process ✓
- b) A router ID can be manually configured or automatically selected by a device. ✓

- c) **The router ID of every device in an OSPF area must be unique** ✓
- d) A device uses the smallest IP address configured on loopback interfaces as its router ID. If no loopback interface is configured, the device uses the smallest IP address configured on interfaces as its router ID

53. Which of the following are MAC address types?

- a) **Unicast MAC address** ✓
- b) **Multicast MAC address** ✓
- c) **Broadcast MAC address** ✓
- d) Anycast MAC address network addressing method used in IPv6

54. Which of the following statements about static and dynamic routes are true?

- a) When creating a static route, you must specify both the outbound interface and next hop
- b) **Dynamic routing protocol can be classified into distance-vector routing protocols and link-state routing protocols based on their working mechanism and routing algorithms.** ✓
- c) **Static routes have low requirements on the system and are applicable to simple, stable, and small-sized network.** ✓
- d) **Dynamic routing protocols can automatically discover and generate routes and are more suitable for large-scale network** ✓

55. The Dynamic Name System (DNS) protocol is used to resolve domain names to IP addresses. Which of the following elements constitute a complete domain name?

- a) **Second-level domain name** ✓
- b) **Top-level domain name** ✓
- c) **Host name** ✓
- d) **Root domain name** ✓

56. Which of the following statements about collision domains and broadcast domains are true?

- a) **All devices connected to the same hub belong to the same collision domain** ✓
- b) **Each port of a switch connects to a collision domain** ✓
- c) **The Ethernet uses CSMA/CD to avoid collisions in collision domains** ✓
- d) **Each port of a router connects to a broadcast domain** ✓

57. Which of the following IP addresses are private IP addresses?

- a) **192.168.1.1/30** ✓
- b) **10.0.1.1/30** ✓
- c) 172.33.1.1/30
- d) **172.16.1.1/30** ✓

58. Which of the following statements about Layer 2 and Layer 3 loops are true?
- a) The ..... in the IP packet header can prevent Layer 2 loops.
  - b) The Layer 2 .... Header does not contain any information that can prevent data frames from being forwarded endlessly ✓**
  - c) A Layer 2 .... if cables are unconnected connected ✓**
  - d) If .... Limes are dep yed on the network Layer 2 loops may ... ✓**
59. Which of the following statements about Layer 2 hybrid ports are true?
- a) When receiving an untagged frame on a link, a Layer 2 hybrid port adds a tag with the VID as its PVID to the frame and then forwards the frame
  - b) When a tagged frame needs to be sent from a Layer 2 hybrid port of a switch and the VID in the tag of the frame is in the untagged VLAN ID list, the port removes the tag from the frame and then sends the untagged frame out on the link ✓**
  - c) After receiving a tagged frame on a link, a Layer 2 hybrid port checks whether the VID in the tag of the frame is in the tagged or untagged VLAN ID list. If not the port discards the frame. ✓**
  - d) When a tagged frame needs to be send from a Layer 2 hybrid port of a switch and the VID in the tag of the frame is in the tagged VLAN ID list, the port sends the frame out on the link without removing the tag from the frame ✓**
60. During IP packed forwarding, the last-hop router forwards packets using the direct route
- a) True ✓**
  - b) False
61. When two static routes work as the primary and backup routes, the preference of the backup route can be changed to the same as that of the primary route so that the routes become equal-cost routes
- a) True
  - b) False ✓**
62. As every two nodes in a full-mesh network are connected using cables eash node requires a large number .... Physical ports and connection cables, resulting in relatively high costs.
- a) True ✓**
  - b) False
63. In an OSPF AS, a router can function as ABR and an ASBR
- a) True ✓**
  - b) False
64. AAA is short for authentication, authorization, and application
- a) True
  - b) False ✓**

65. Before sending an IPv6 packet, an interface performs the following operations in this order: address configuration, address resolution, and duplicate address detection (DAD)
- a) True
  - b) False ✓**
66. TFTP uses TCP to transfer files, and default server port number is 21
- a) True ✓**
  - b) False
67. Frames transmitted on the trunk link between switches are all tagged
- a) True
  - b) False ✓**
68. WLAN technology enables transmission of information by radio waves over the air. Currently the 2.6 GHz and 5 GHz frequency bands are used
- a) True
  - b) False ✓**
69. FTP is a file transfer protocol and works in active or passive mode
- a) True ✓**
  - b) False
70. Which of the following statements about BPDUs in STP is false?
- a) When the network topology becomes stable all switches proactively BPDUs
  - b) BPDUs are classified into configuration BPDUs and TCN BPDUs
  - c) A configuration BPDUs contains parameters