FINAL SEMESTER 3

1 The routers in the diagram are configured for RIP v2 on network 1.0.0.0. Additional static routes are configured as shown in the graphic. What will RA do with a packet it receives on interface 1.1.1.1 that is destined for host 2.2.1.1 on a remote network?

buffer it until it learns a route to 2.2.0.0
forward it to 1.1.1.2
forward it to 1.1.2.2
forward it to 1.1.3.2√
forward it to 2.1.1.2
drop the packet

2 A redundant switched topology is being installed in an enterprise. Which of the following should be configured to ensure that this network operates efficiently?

TTL
STP√
BID
BPDU
ARP

3 Users are complaining that resources housed on a remote network have become unavailable. Which command can the administrator use to check whether this destination network is known to the local router?

router# show ip route√
router# show route
router# show ip rip
router# show rip
router# show protocol

4 How can MAC address table entries be removed from a switch? (Choose two.)

Power cycle the switch to clear all dynamically learned addresses.√
The clear switching-tables command will remove statically configured entries.
The clear mac-address-table command will remove statically and dynamically configured table entries.√
The erase flash command will clear all statically configured table entries.
Statically configured MAC addresses will automatically be removed from the address table 300 minutes after the last activity on a switch port.

5 Which of the following are performed by a switch port that is in the forwarding state in an STP network? (Choose three.)

discarding data traffic
receiving data traffic√
forwarding data traffic√
recalculating BPDUs
receiving BPDUs√
blocking BPDUs

6 Which of the following statements about link-state advertisements are correct? (Choose three.)

LSAs are sent to neighboring routers on a regular basis.
LSAs are used by a router to determine if a neighboring router is online.
LSAs are multicast to all routers in the area.√
LSAs contain the topological database of the sending router.
Routers use LSAs to learn about the topology of the entire network.√
LSAs are sent when the router detects a topology change.√

7 Which type of address does OSPF use to initiate new adjacencies and to ensure that neighbor routers are functioning?

broadcast
loopback
multicast√
unicast

8 Which LAN design requirement addresses user-to user and user-to-application connectivity?

adaptability
manageability
scalability
functionality√

9 What affects network availability? (Choose three.)

location
throughput√
user proficiency
response time√
workstation speed
access to resources√

10 The spanning tree election process has taken place on a network containing five bridges. How many total root bridges have been elected?

1√
3
5
one per trunk port

11 What problems can occur on a redundant switched network? (Choose three.)

A destination device may receive a frame more than once.√
The switch may learn an incorrect MAC address-to-port mapping.√
Broadcast storms may make the network appear down.√
A frame may be dropped before reaching its destination.

The network may not converge.

12 Using Telnet, a network administrator is unable to log in to a switch located at another office in order to make configuration changes to it. What could be the problem?

The managmement station does not have access to a full-duplex Fast Ethernet link on the switch.

VLAN 1 on the switch is not configured for TCP/IP network access.√

The switch must be managed from the local LAN.

The switch hostname has not been set.

13 A router is configured to connect to a trunked uplink as shown in the graphic. A packet is received on the FastEthernet 0/1 physical interface from VLAN 1. The packet destination address is 192.168.1.85. What will the router do with this packet?

The router will ignore the packet because the source and destination are on the same broadcast domain.

The router will forward the packet out interface FastEthernet 0/1.1.

The router will forward the packet out interface FastEthernet 0/1.2.√

The router will forward the packet out interface FastEthernet 0/1.3.

The router will drop the packet since no network that includes the source address is attached to the router.

14 Which of the following statements are correct concerning the default configuration of a new switch? (Choose three.)

VLAN1 is configured with a management IP address.√

All switch ports are assigned to VLAN1.√

Spanning Tree Protocol is disabled.√

All interfaces are set to auto.

Enable password is configured as cisco.

The flash directory contains the IOS image.

15 Which of the following are features of the distribution layer? (Choose three.)

VLAN routing√

MAC layer filtering

security√

microsegmentation

packet filtering with access control lists√

workgroup access

16 How do EIGRP routers actively maintain neighbor relationships?

They dynamically learn new routes.

They continously monitor the status of their own ports.

They exchange their entire neighbor tables with directly attached routers.

They exchange hello packets with their neighbors every five seconds, by default.√

They compare known routes to received updates.

17 Which of the following is the metric that OSPF uses to determine the best route to a destination network?

administrative distance
cost√
hop count
link delay

18 In which STP state does a switch port only receive BPDUs?

blocking√
learning
disabled
listening
forwarding

19 A Class C address has been assigned for use in the network shown in the graphic. Using VLSM, which bit mask should be used to most efficiently provide for the number of host addresses required by Router C, while wasting the fewest addresses?

/31
/30
/29
/28
/27
/26√

20 Which of the following are considered limitations of RIP v1? (Choose three.)

It does not support authentication.√
It sends updates as broadcasts on 255.255.255.255.√
It does not send subnet mask information in its updates.√
It is not widely supported in multivendor routing environments.
It does not support equal-cost load balancing.

21 Which of the switches shown in the graphic will be elected as the root bridge of the spanning tree topology?

Cat-A√
Cat-B
Cat-C
Cat-D

22 What is the purpose of a default route?

A default route will cause packets addressed to unknown destination networks to be dropped.

A default route will cause packets addressed to unknown destination networks to be sent to a designated router interface.√

A default route will cause packets addressed to known destinations to prefer a specified path to the destination network.

A default route will direct packets for all destination networks to a designated router and router interface.

23 Which of the following tables does DUAL use to calculate the lowest cost routes to each destination?

routing table and topology table
neighbor table and routing table
neighbor table and topology table√
neighbor table and adjacency table

24 Which strategies can a company take to enhance network reliability through redundancy? (Choose two.)

Eliminate single points of failure.√
Flood frames for unknown destinations.
Send multiple frames to an end device.
Design alternate routes to a destination.√
Forward MAC address tables to all switches on the network.
Eliminate multiple paths to the same destination.

25 The network 192.1.1.0 has been subnetted for a network design. The 192.1.1.16/28 subnet has been chosen for further subnetting to provide for point-to-point serial link addressing. How many serial link subnets can be created while minimizing the number of wasted addresses?

1
2
4√
6
8
16

26 Which command is used to copy a backup configuration file from a server to the non-volatile memory of a switch?

Switch# copy startup-config tftp
Switch# copy tftp startup-config√
Switch# copy NVRAM tftp
Switch# copy tftp NVRAM
Switch# copy tftp flash

27 Which of the following statements describe trunking? (Choose two.)

Trunking bundles multiple virtual links over one physical link.√
Trunking decreases the number of switch ports available for hosts.
Trunking complicates the physical interconnection of switches in the wiring closet.
Trunks can be configured to carry traffic for several VLANs between switches.√

Trunking requires one switch port for each configured VLAN.

28 What is indicated when an EIGRP route is in the passive state?
The route has the highest path cost of all routes to that destination network.
The route must be confirmed by neighboring routers before it is put in the active state.
The route is a feasible successor and will be used if the active route fails.
There is no activity on the route to that network.
The route is viable and can be used to forward traffic.√

29 Which of the following are characteristics of link-state routing protocols? (Choose three.)
collection of routing information from within a defined area of the network√
view of network from neighbor's perspective
independent calculation of best paths to all destinations√
propagation of incorrect information minimized√
demonstration of universal compatibility and simplicity

30 Which VLAN implementation method requires less administration in the wiring closet and can provide notification if an unauthorized user attempts to connect to the network?
port-centric
static
dynamic√
geographic

31 What is the term that describes the cabling between the MDF and IDF locations as shown in the graphic?
horizontal cross-connect
horizontal cross-cabling
vertical cross-connect√
vertical cross-cabling

32 Which of the following are layers in the hierarchical design model? (Choose three.)
gateway
access√
distribution√
network
core√
domain

33 A switched Ethernet network is experiencing unusually heavy traffic to the extent that network delays have become intolerable. While investigating the problem, a network administrator disconnects a redundant uplink between two switches. The excessive traffic quickly subsides. What was the likely cause of this problem?
broadcast storms√

routing loops
multiple frame copies
load balancing
unicast frame forwarding

34 What does the router shown in the graphic provide to the network? (Choose three.)
forwarding of packets between VLANs√
forwarding of broadcast frames between VLANs
improved efficiency in bandwidth utilization √
connectivity of local hosts with remote resources√
elimination of VLAN configuration errors
prevention of switching loops

35 What is required for OSPF routers to share routing information?
designated routers
a backup designated router
neighbor adjacencies√
an NBMA network topology
links configured on the 224.0.0.0 network

36 An entire workgroup has lost network connectivity. After shutting down and restarting the workgroup switch in the wiring closet, it is observed that the switch system LED is amber. What should be done?
The switch should be reconfigured.
The switch should be replaced in order to restore connectivity to the workgroup.√
The switch should be allowed to complete POST before its configuration is checked.
The switch has returned to service, however its configuration should be checked.

37 What will be the result of OSPF DR/BDR elections in the network shown in the diagram? (Choose three.)
R1 will be the DR for the 10.1.1.0/24 network.
R1 will be the DR for the 10.1.2.0/24 network.√
R1 will be the DR for the 10.1.3.0/24 network.
R2 will be the DR for the 10.1.1.0/24 network.√
R3 will be the DR for the 10.1.2.0/24 network.
R4 will be the DR for the 10.1.3.0/24 network.√

38 A new color laser printer has been configured on the Marketing VLAN. Users on the Sales VLAN would also like to have access to this printer. What must be done in order for the Sales department users to be able to access this device?
A root bridge must be elected to allow the traffic to cross.
A bridge must be configured with a compatible bridging protocol.
A router must be installed and configured to connect the VLANs.√
No traffic should be allowed to pass between VLANs.
The print server must be configured to accept connections over VTP.

39 Which of the following are characteristics of a router-on-a-stick design for inter-VLAN routing? (Choose three.)

multiple logical router interfaces√
multiple physical router interfaces
one logical router interface
one physical router interface√
multiple logical networks defined for each VLAN
one logical network defined for each VLAN√

40 How many collision domains will there be in the entire network shown in the graphic if Hub1 is replaced with a Layer 2 switch?

2
3
4√
7
8
10

41 Router XYZ is to be added to OSPF area 0. Which of the following is the correct syntax for enabling OSPF on this router?

XYZ(config)# router ospf
XYZ(config)# router ospf 0
XYZ(config)# router ospf 10√
XYZ(config)# router ospf process 0
XYZ(config)# router ospf process 10
XYZ(config)# router ospf processid 10

42 Which distribution layer devices enhance Layer 2 switching with Layer 3 functionality? (Choose two.)

multilayer routers
multilayer switches√
bridges
managed hubs
VLANs
a switch with a router module√

43 The LAN devices are configured as shown in the diagram. Why are Host1 and Host2 unable to communicate? (Choose three.)

A router is required to forward traffic between the hosts.√
The switch ports are on different VLANs.√
The VLAN port assignments must be contiguous for each VLAN.
The host default gateway addresses must be on the same logical network.
The switch IP address is on the wrong subnet.
The hosts are configured on different logical networks.√

44 A switch that was previously attached to another VTP management domain is added to an existing VTP domain. VLAN information on all the other switches in the existing VTP management domain is lost. Why did this happen?

Adding the new switch caused spanning tree protocol to recalculate the network and erase the existing VLAN configurations.

The new switch BID was higher than the existing VTP server, causing the new switch to broadcast incorrect VLAN information to the domain.

The new switch had a higher VTP configuration revision number than the other switches in the domain and erased the VLAN information on the VTP server and VTP clients.√

The new switch exceeded the maximum number of switches permitted in a management domain.

The switch advertised VTP version 2 information to the network, causing the existing VLAN data to be overwritten.

45 While deleting the VLANs from a switch, a network administrator receives the following message, "A default VLAN may not be deleted". What did the administrator do to cause this message to be displayed?

The no vlan all command was entered.

The no switchport mode access command was not properly entered.

The no vlan 1 command was entered.√

The no vlan command was entered in database configuration mode.

The no default vlan command was entered.

The administrator attempted to delete a VLAN that still has switch ports assigned to it.

46 How does an Ethernet switch improve network performance? (Choose three.)

allows multiple frames to be forwarded simultaneously√

decreases the number of broadcast domains

increases network latency

eliminates unnecessary broadcast frames

reduces the size of collision domains√

increases the number of collision domains√

47 Refer to the graphic. Which point must be reached before a bridge will forward a frame?

A

B

C

D

E

F√

48 What do switches configured with VLANs provide to an enterprise network? (Choose three.)

bridging between VLANs
security√
broadcast control√
physical grouping of users
logical grouping of users√
enlargement of collison domains

49 Which of the following tasks must be completed to configure a router interface to serve the newly added network 192.168.10.64/27 and to advertise this network over RIP v2? (Choose three.)

Configure RIP v2 with the network command and the IP network number for the new network.√

Configure RIP v2 with the network command and the IP host address and subnet mask for the newly activated interface.

Configure the router with the ip subnet-zero command so that this network can be added and advertised.

Apply a network host address and subnet mask to the newly activated interface.√

Activate the routing protocol with the router rip version 2 command.√

Configure RIP on the other routers in the enterprise with an entry for the newly added network.

50 An Ethernet switch has developed the CAM table shown. What action will the switch take when it receives the frame shown at the bottom of the graphic?

forward the frame out all interfaces except Interface3√
add station 00-00-3D-1F-11-05 to Interface2 in the forwarding table
forward the frame out Interface3
discard the frame
forward the frame out all interfaces
forward the frame out Interface2

51 Which algorithm does EIGRP use to calculate routes?

PDM
RTP
DUAL√
LSA

52 If EIGRP routing is employed and the successor route to a destination becomes unreachable or unreliable, which of the following would be used as a replacement?

the route flagged as active in the topology table
the feasible successor route in the topology table√
the default gateway in the neighbor table
the primary designated route in the topology table
the backup designated router in the routing table

53 When the mode LED on a Cisco switch is set to STAT, what port status is indicated by a green flashing port LED?
no link
port is not forwarding
port is sending or receiving data√
port is sending, but not receiving
link fault

54 Refer to the topology and link path costs shown in the graphic. What is the total cost of the path that OSPF will use between the Data_Center router and the BldgA router?
2
11
12√
65
66

55 Under which of the following circumstances might two routers have trouble establishing a neighbor relationship in an OSPF network? (Choose three.)
Hello packets are not sent from either neighbor.√
The interfaces are on different network types.√
The network command has put the connected interfaces into the same OSPF area.
Slow network connections cause OSPF advertisements to time out.
Authentication passwords or keys are different.√

56 Which Ethernet device has the highest latency factor?
transceiver
hub
MAU
router√
switch

57 How are RIP v1 and RIP v2 similar to one another? (Choose three.)
They both use hop count as a metric.√
They both have the same metric value for infinite distance.√
They both broadcast their updates to their neighbors.
They both send subnet mask information in their updates.
They both provide for authentication of update sources.
They both use split horizon to prevent routing loops.√

58 What is required for full-duplex Ethernet transmissions?
one pair of conductors in the cable and a switched connection between each node
two pairs of conductors in the cable and a switched connection between each node√
two pairs of conductors in the cable and a non-switched connection between each node
four pairs of conductors in the cable and a non-switched connection between each node

59 Which interior routing protocols support VLSM? (Choose three.)
OSPF√
RIP v1
RIP v2√
EIGRP√
BGP
IGRP

60 Which of the following statements regarding server placement are correct? (Choose two.)
Enterprise servers should be located in the MDF.√
Enterprise servers should be located in an IDF.
Workgroup servers should be located in the MDF.
Workgroup servers should be located in an IDF.√
Both workgroup and enterprise servers should be located in the MDF.
Both workgroup and enterprise servers should be located in an IDF.

61 What is the minimum amount of bandwidth that Layer 2 LAN switches should provide to servers?
1 Mbps
10 Mbps
100 Mbps√
1000 Mbps
1 Gbps