Started on	Tuesday, 4 May 2021, 11:11 AM
State	Finished
Completed on	Tuesday, 4 May 2021, 11:53 AM
Time taken	42 mins 30 secs
Grade	**85.00** out of 100.00

Question 1

Correct   Mark 2.50 out of 2.50

What is an advantage of using dynamic routing protocols instead of static routing?

Select one:

○ a. the path is chosen by the administrator

○ b. fewer router resource overhead requirements

○ c. more secure in controlling routing updates

⦿ d. ability to maintain routing table without intervention ✓

The correct answer is: ability to maintain routing table without intervention

Question 2

Correct   Mark 2.50 out of 2.50

Which of the following is the advantage provided by static routing over the dynamic routing?

Select one:

○   a. Static routing is relatively easy to configure for large networks.

○   b. Static routes scale well as the network grows.

○   c. Configuration of static routes is error-free.

◉   d. The path a static route uses to send data is known. ✓

The correct answer is: The path a static route uses to send data is known.

Question 3

Correct   Mark 2.50 out of 2.50

Give one reason for creating an OSPF network with multiple areas!

Select one:

○   a. to provide areas in the network for routers that are not running OSPF

◉   b. to reduce use of memory and processor resources ✓

○   c. to ensure that an area is used to connect the network to the Internet

○   d. to simplify configuration

The correct answer is: to reduce use of memory and processor resources

Question 4

Correct   Mark 2.50 out of 2.50

What is used to facilitate hierarchical routing in OSPF?
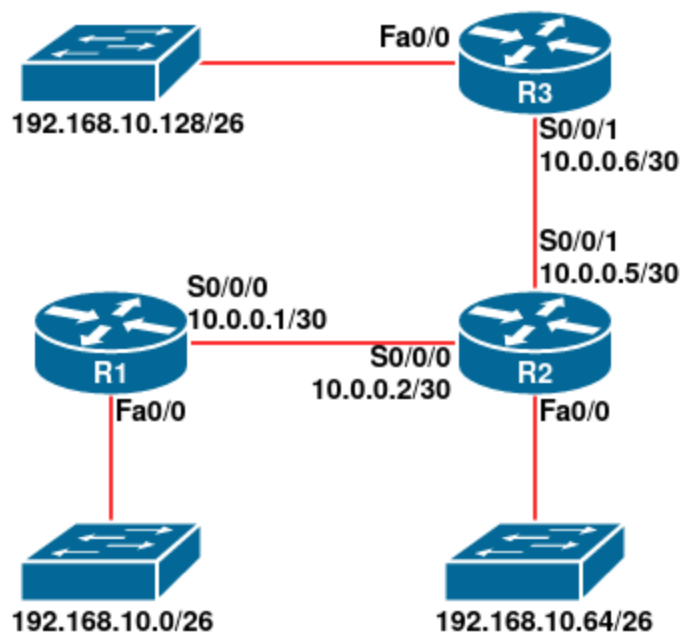
Select one:

○   a. frequent SPF calculations

○   b. the election of designated routers

◉   c. the use of multiple areas ✓

○   d. autosummarization

The correct answer is: the use of multiple areas

Question 5

Correct   Mark 2.50 out of 2.50

Fa0/0

R3

192.168.10.128/26

S0/0/1
10.0.0.6/30

S0/0/1
10.0.0.5/30

S0/0/0
10.0.0.1/30

S0/0/0
10.0.0.2/30

R1

R2

Fa0/0

Fa0/0

192.168.10.0/26

192.168.10.64/26

What will router R2 do with a packet destined for 192.168.10.50?

Select one:

○   a. drop the packet

○   b. send the packet out interface Serial0/0/1

○   c. send the packet out interface FastEthernet0/0

◉   d. send the packet out interface Serial0/0/0 ✓

The correct answer is: send the packet out interface Serial0/0/0

Question 6

Correct   Mark 2.50 out of 2.50

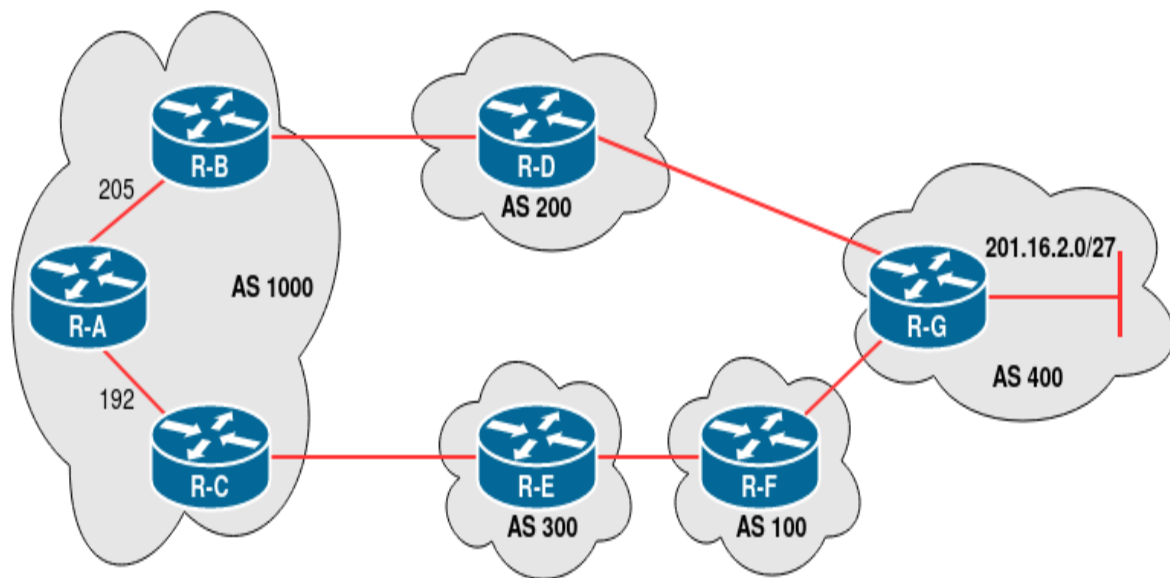Which statement express one of key characteristics of BGP?

Select one:

- ○ a. It uses cost as its metric.

- ○ b. It is an advanced distance vector routing protocol.

- ● c. It is a policy-based routing protocol. ✔

- ○ d. It uses bandwidth and delay as its metric.

The correct answer is: It is a policy-based routing protocol.

Question 7

Incorrect   Mark 0.00 out of 15.00

R-B receives an eBGP advertisement from R-D. When propagated into AS 1000 by iBGP, which router would be used as the next hop for R-C?
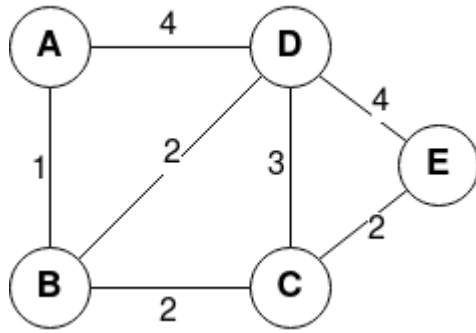
Select one:

- ○ a. R-D

- ○ b. R-A

- ○ c. R-B

- ● d. R-E ✗

The correct answer is: R-A

Consider the above network. With the indicated link costs, use Link State routing algorithm to compute the shortest path from **A** to all network nodes. Show how the algorithm works by computing a table in the following format:
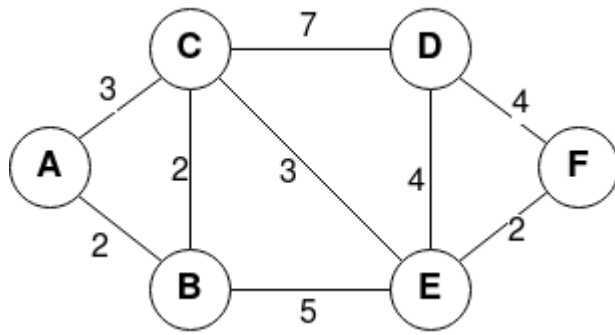
NOTE:

- Do not give space between D(x) and p(x), while the node is case insensitive, e.g. 3,A or 4,b or 5,c etc
- For infinity link cost, you can simply write **inf.**
- If there is any tie in least cost path calculation to some nodes, take left most node first, and then go to the right. For example: D(A) = 3, D(C) = 3, D(E) = 3, then you take D(A) first, then D(C), and finally D(E).

N'	D(B),p(B)	D(C),p(C)	D(D),p(D)	D(E),p(E)
A	1,A ✓	inf ✓	4,A ✓	inf ✓
AB ✓	1,A ✓	3,B ✓	3,B ✓	inf ✓
ABC ✓	1,A ✓	3,B ✓	3,B ✓	5,C ✓
ABCD ✓	1,A ✓	3,B ✓	3,B ✓	5,C ✓
ABCDE ✓				

Consider the network shown above, and assume that each node initially knows the costs to each of its neighbors. Consider the distance-vector algorithm. Show the distance table entries at node **F** after the **first iteration**!

NOTE:

- It is case insensitive
- If the cost = infinity, you can simply write **inf** and the corresponding next hop can be written as '-' (without quote)
- If there are more than one paths with similar minimum cost, choose only one possible next hop (don't write all possible next hops)

	A	B	C	D	E
Cost	inf ✓	7 ✓	5 ✓	4 ✓	2 ✓
Next hop	- ✓	E ✓	E ✓	D ✓	E ✓