Question 1

Based on the exhibit, which of the following is a viable option for the Path Computation Element (PCE) to obtain all the necessary topology and traffic-engineering information from the network, so that it can calculate LSP paths on behalf of the PE routers?
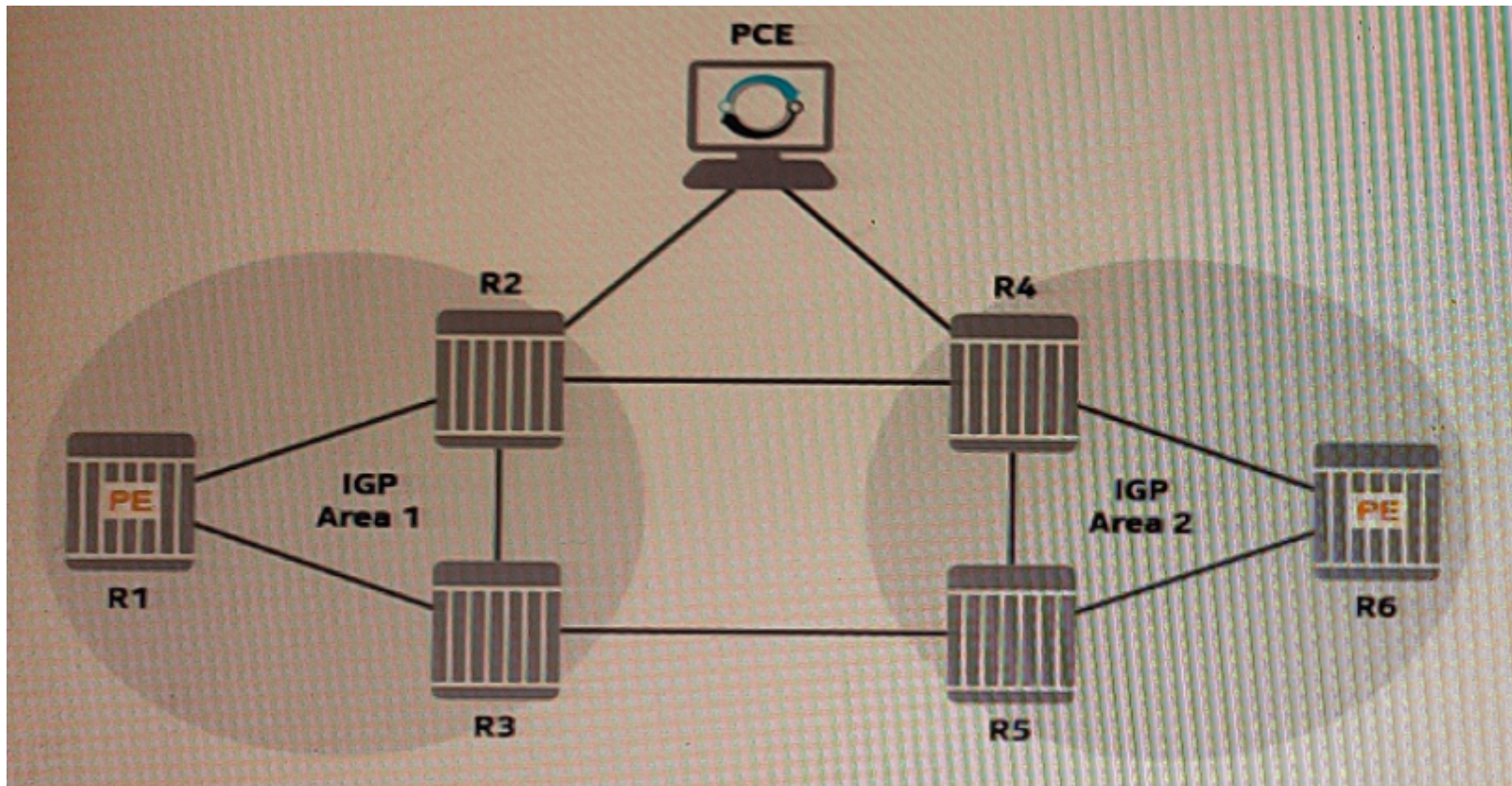
Options:

A- Establishing an IGP adjacency with router R2

B- Establishing IGP adjacencies with routers R1 and R2

C- Establishing a BGP session using the BGP-LS address family with router R3

D- Establishing BGP sessions using the BGP-LS address family with routers R3 and R4

Answer:

D

Question 2

Question Type: MultipleChoice

Which of the following statements about the Path Computation Element (PCE) is FALSE?

Options:

A- The PCE can obtain topology and traffic-engineering information from the network using either a link-state IGP or BGP-LS.

B- A stateful PCE proactively monitors all the existing LSPs and triggers the necessary repairs and re-optimizations.

C- A stateless PCE can calculate cross-area traffic-engineering-constrained LSP paths.

D- A stateful PCE can allow LSPs to reserve bandwidth.

Answer:

D

Explanation:

Stateful PCE can monitor the existing LSPs and trigger necessary repairs and re-optimizations, but it does not have the capability to reserve bandwidth.

Question 3

Question Type: **MultipleChoice**

An SR-TE LSP with a path definition that includes router R4 as a loose hop and for which Seamless-BFD has been enabled is following the path shown in the exhibit. What happens after router R4 fails if the routers along the path follow the default behavior?
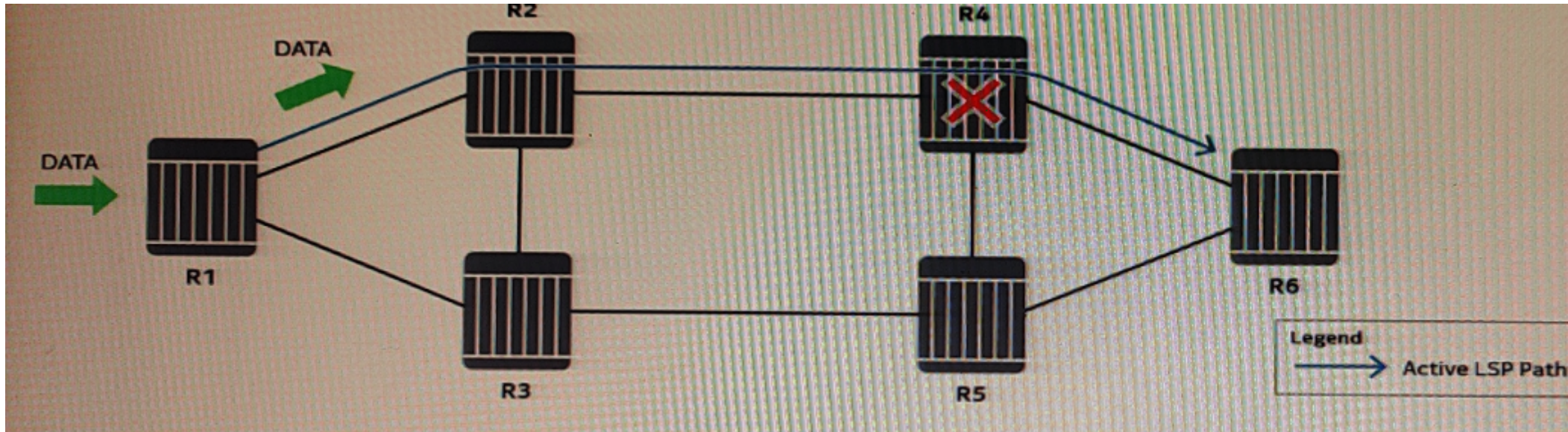
Options:

A- The head end will periodically try to calculate a new path at a rate defined by the retry timer.

B- The head end will periodically try to calculate a new path at a rate defined by the resignal timer.

C- The head end will continue forwarding traffic to the current next-hop indefinitely, which will be discarded at the point of failure.

D- The head end will continue forwarding traffic to the current next-hop indefinitely, and R2 will redirect the traffic to R3 after IGP reconvergence.

Answer:

C

Explanation:

When an SR-TE LSP with Seamless-BFD enabled, the BFD sessions are established between the routers along the path to detect any failures quickly. If a failure happens in the path, the router will stop forwarding the traffic and send a BFD control packet to the head-end router. In this case, R4 failed, BFD sessions will detect the failure and send a message to the head-end router, but since R4 is a loose hop, the path doesn't have to be re-calculate. The head-end router will continue forwarding traffic to the current next-hop, R2, which will be discarded at the point of failure (R4) as it doesn't know about the failure. And the traffic will not be redirected to R3 after IGP reconvergence.

Question 4

Question Type: **MultipleChoice**

Which of the following statements about primary and secondary SR-TE LSP paths is FALSE?

Options:

A- Only one LSP path forwards the traffic at any time,

B- Up to three paths can be configured for a given SR-TE LS

C- The primary path is always preferred over a secondary pa

D- Preference values can be configured for non-standby secondary paths.

Answer:

B

Explanation:

Typically, in SR-TE, only two paths can be configured for a given SR-TE LSP: primary path and secondary path. The primary path is used for normal traffic forwarding, and the secondary path is used as a backup in case the primary path fails. Only one LSP path forwards the traffic at any time.

Question 5

Question Type: **MultipleChoice**

Which of the following statements about the operation of seamless-BFD is FALSE?

Options:

A- Seamless-BFD responses are sent back using the LSP label stack.

B- To be able to respond to seamless-BFD messages, a router must be configured as a reflector.

C- A seamless-BFD template needs to be configured on the head-end of the LSP.

D- The routing protocol (OSPF or IS-IS) is used to carry the reflector discriminator information.

Answer:

A

Explanation:

Seamless-BFD is a mechanism that allows the detection of faults in MPLS LSPs more quickly by using BFD (Bidirectional Forwarding Detection) protocol. Seamless-BFD responses are sent back using the MPLS data-plane, not the LSP label stack.

Question 6

Question Type: MultipleChoice

Which of the following is an advantage of enabling label stack reduction for a CSPF-calculated path, as compared to using plain CSPF?

Options:

A- The number of hops included in the end-to-end path is reduced.

B- The path calculation can be delegated to an external path computation element (PCE).

C- There is a larger list of traffic-engineering constraint types that can be imposed on the LSP path.

D- The routers in the calculated path can take advantage of ECMP to better distribute the traffic load.

Answer:

A

Explanation:

Once a path is associated with an LSP, it cannot be used by other LSPs is False. A path can be used by multiple LSPs, but each LSP can have different attributes like bandwidth, priority and other constraints.

Question 7

Which of the following statements about path definitions is FALSE?
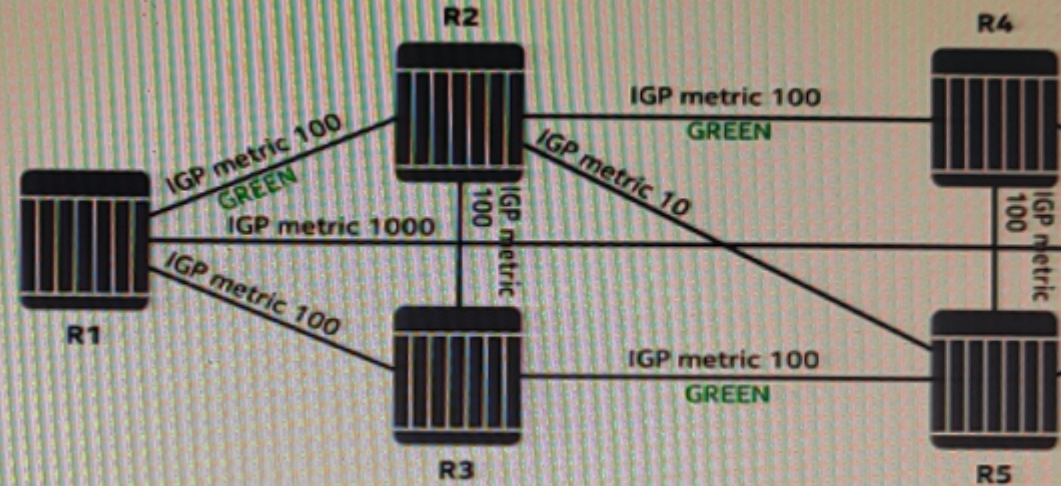
Question 8

Question Type: MultipleChoice

Examine the exhibit. Based upon the configuration, which routers will the LSP go through?

```
(ex)[/configure router "Base" mpls]
A:admin@R01# info
    admin-state enable

    -- Snip --
    path "empty-list" {
        admin-state enable
    }
    lsp "toR6" {
        admin-state enable
        type p2p-sr-te
        to 10.10.10.6
        primary "empty-list" {
            exclude-admin-group {
                group ["GREEN"]
            }
        }
    }
}
```

Options:

A- R1, R3, R2, R5, R4 and R6

B- R1, R2, R5 and R6

C- R1, R3, R4 and R6

D- R1, R2, R4 and R6

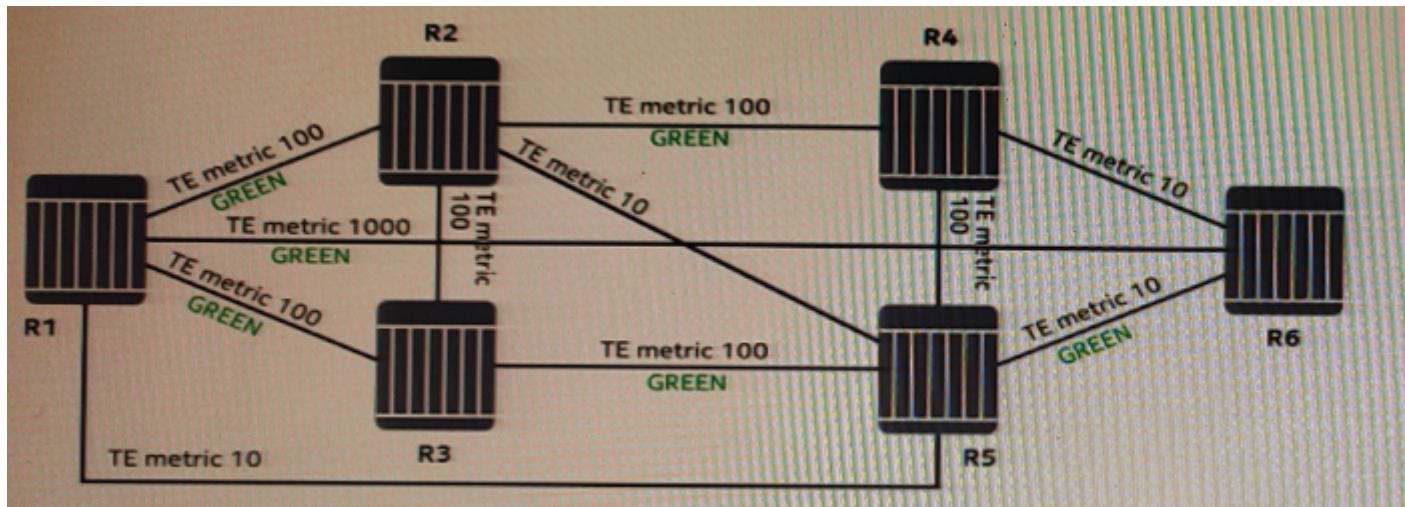**Answer:**

C

Question 9

Examine the exhibit.

An LSP is being configured to start at R1 and end at R6 using local CSPF. The LSP has the following constraints. Include admin-group GREEN, use the TE metric and hop-limit 3. What routers will be included in the LSP path?

Options:

A- R1, R2, R4, R6

B- R1, R5, R6

C- R1, R3, R5, R6

D- R1, R6

Answer:

C

Question 10

Question Type: MultipleChoice

OSPF is being used for segment routing with traffic-engineering (SR-TE). The traffic-engineering option has been set to "sr-te false". Which of the following statements is TRUE?

Options:

A- The TE information will be advertised for all the OSPF links that have MPLS enabled.

B- The TE information will only be advertised using application-specific sub-TLVs.

C- The TE information will only be advertised for the OSPF links that have both MPLS and RSVP enabled.

D- The TE information will only be advertised using extended-link opaque LSAs.

Answer:

D

Explanation:

When using Segment Routing with Traffic Engineering (SR-TE) in OSPF, the TE information is advertised using extended-link opaque LSAs. The option 'sr-te false' indicates that OSPF will not advertise the TE information in the OSPF database, thus the routers will not be aware of the TE information.

Question 11

Question Type: MultipleChoice

Based upon the exhibit, which of the following statements regarding the configuration is FALSE?

```
(ex)[/configure router "Base" isis 0]
A:admin@R01# info
    admin-state enable
    advertise-router-capability as
    level-capability 1
    reference-bandwidth 100000000
    traffic-engineering true
    area-address [49.01]
    segment-routing {
        admin-state enable
        prefix-sid-range {
            global
        }
    }
    interface "system" {
        interface-type point-to-point
        ipv4-node-sid {
            index 1
        }
    }
    interface "toR2" {
        interface-type point-to-point
    }
    interface "toR3" {
        interface-type point-to-point
    }
    level 1 {
        wide-metrics-only true
    }
```

Options:

A- Traffic engineering information will only be advertised for the interfaces that have both MPLS and RSVP enabled.

B- The Node-SID assigned to this router is the second label in the defined range.

C- Traffic engineering has been enabled on this router.

D- Adjacency-SID labels will not be advertised as they have not been defined under the physical interfaces.

Answer:

A