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Nokia GMPLS-Controlled Optical Networks

Nokia 4A0-220

Version Demo

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QUESTION NO: 1

Which of the following information is present in every GMPLS-enabled node?

A. The bandwidth of each client path in the entire network

B. The frequency of each client path in the entire network

C. The state of each link in the entire network

D. The list of LSPs created in the entire network

ANSWER: C

Explanation:

The state of each link in the entire network is the correct information because GMPLS relies on a link-state routing control plane to distribute topology and traffic-engineering information among participating nodes. In a GMPLS routing domain, OSPF-TE or IS-IS-TE advertises link information through flooding, allowing each node to build a traffic-engineering database that represents the network topology and the current attributes of its links. This information includes operational and resource-related state needed for path computation, such as whether a link is available, its reservable capacity, protection-related attributes, and shared-risk information where applicable.

Having this distributed view enables a node performing constraint-based path computation to select an LSP path that satisfies the requested constraints and reflects the current network condition. In optical GMPLS deployments, the advertised TE state can also represent switching-capability and label-related constraints required to establish an optical connection. The GMPLS routing extensions and the TE routing model are defined in the IETF specifications for GMPLS routing and OSPF traffic engineering: RFC 4203 and RFC 3630.

QUESTION NO: 2

How can you modify the SNC Nominal Route in NFM-T?

A. By changing the SRG constraints

B. By using the Reroute Wizard to modify the constraints

C. By using the Constraint Wizard to modify the constraints

D. By putting the LSP in Test mode and moving traffic

ANSWER: C

Explanation:

The correct method is **By using the Constraint Wizard to modify the constraints**. In NFM-T, an SNC nominal route represents the intended working route for the service/LSP. Its path is derived from the routing constraints configured for that SNC, which can include route preferences and exclusions, resource or topology constraints, bandwidth-related requirements, and diversity considerations. The Constraint Wizard provides the controlled workflow for changing these existing constraints. After the revised constraints are submitted, NFM-T can recalculate an eligible nominal route and provision the resulting route update in the network according to the applicable routing and operational policies. This approach is preferable because it changes the route through the SNC's defined constraint model rather than requiring an operator to manually move traffic or use a testing state. It also maintains the service's routing intent as part of the managed object configuration, supporting consistent subsequent path computation and operational visibility. Nokia's optical-network training portfolio covers GMPLS-controlled transport and the associated management workflows, while the NFM-T documentation portal provides product documentation for route, service, and network-management procedures. See Nokia Network Training and Nokia NFM-P Documentation.

QUESTION NO: 3

An optical LSP must traverse three wavelength-switching TE-links. None of the intermediate nodes provides wavelength conversion. What label-selection condition must be satisfied for the LSP to be established?

A. The same wavelength label must be available on every TE-link of the route

B. A different wavelength label must be allocated on each TE-link of the route

C. The lowest-frequency wavelength label must be allocated on every TE-link

D. A wavelength label is selected only after the RESV message reaches the ingress node

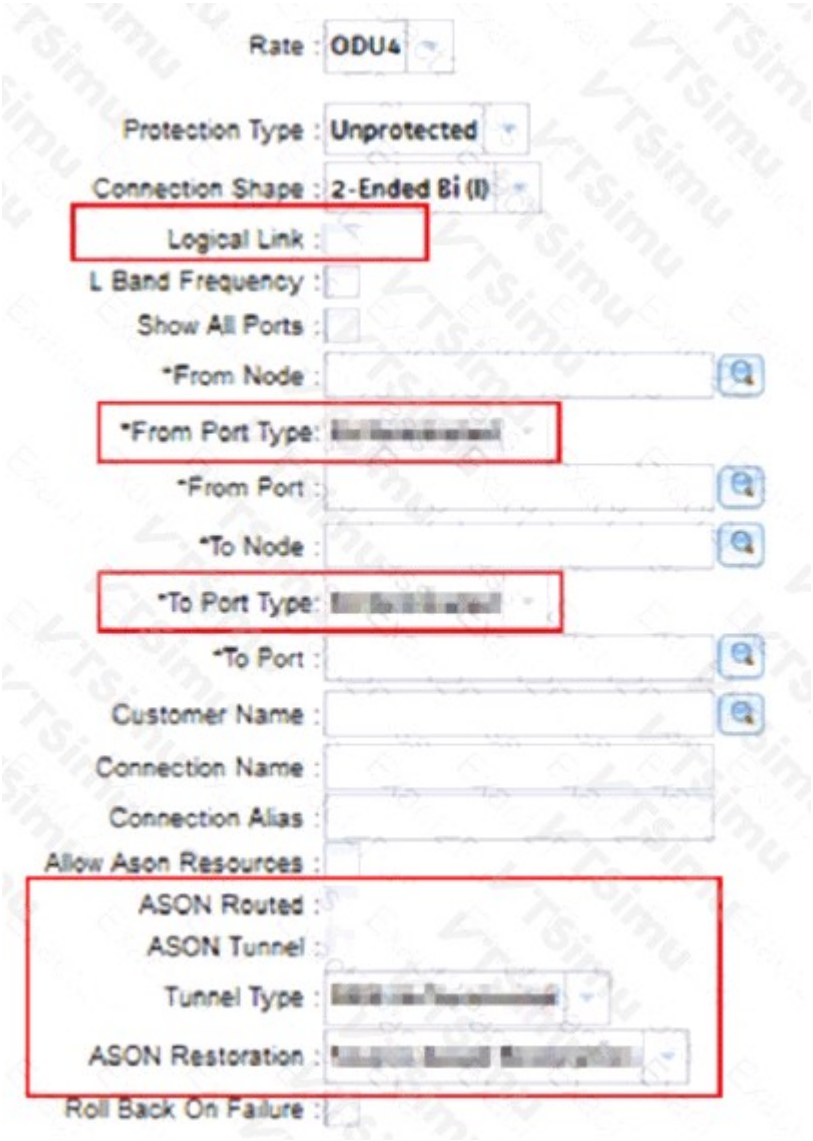
ANSWER: A

Explanation:

The same wavelength label must be available on every TE-link of the route. Without wavelength conversion, an optical connection must maintain wavelength continuity from ingress to egress. A route can have adequate capacity on each individual link and still be unusable if no common wavelength is available across the complete path. Wavelength conversion at an intermediate node would remove this continuity requirement for the adjacent segments.

QUESTION NO: 4

How do you configure the Trail template in NFM-T for an Uplink board (such as 2UC400) in a network with only LI restoration capability?



A. Check the Logical Link boxSet the Port Type to Unterminated Uncheck the ASON Routed box Uncheck the ASON Tunnel box

B. Uncheck the Logical Link box NSet the Port Type to TerminatedUncheck the ASON Routed box Uncheck the ASON Tunnel box

C. Check the Logical Link boxSet the Port Type to Unterminated Check the ASON Routed box Check the ASON Tunnel box

D. Uncheck the Logical Link box Set the Port Type to Terminated Check the ASON Routed box Check the ASON Tunnel box

ANSWER: A

Explanation:

Check the Logical Link box; set the Port Type to Unterminated; uncheck the ASON Routed box; and uncheck the ASON Tunnel box. This is the appropriate trail-template configuration when the network supports only link-integrity restoration. Enabling the logical-link attribute permits NFM-T to represent the connection between the uplink interfaces as a logical relationship that can participate in LI restoration. Selecting an unterminated port type is important because the uplink board is not the service-termination point for this trail; termination is associated with the relevant OTU-side function. With LI restoration only, NFM-T provisions and manages the required restoration behavior without using GMPLS ASON routed-signaling capabilities. Therefore, the trail must not be identified as ASON Routed. Likewise, an ASON tunnel is not applicable to this uplink-board trail configuration and must remain disabled. This combination accurately models the physical and logical roles of the uplink board while allowing the management system to use the available LI restoration mechanism. Nokia optical-network documentation and training resources are available through the Nokia Documentation Center and Nokia training pages.

QUESTION NO: 5

While processing an RSVP-TE PATH message, a transit node cannot satisfy a required generalized-label constraint and cannot continue LSP setup. In which direction is the resulting PathErr message sent?

A. Downstream toward the egress node

B. To every node in the GMPLS routing domain

C. Only to the adjacent downstream node

D. Upstream toward the ingress node

ANSWER: D

Explanation:

The PathErr message is sent upstream toward the ingress node. A PATH message travels downstream from ingress to egress, so an error encountered while processing that request must be reported back toward the head-end that initiated it. The ingress can then report the failure or attempt another eligible route. A RESV message and its associated reservation processing travel in the opposite direction.