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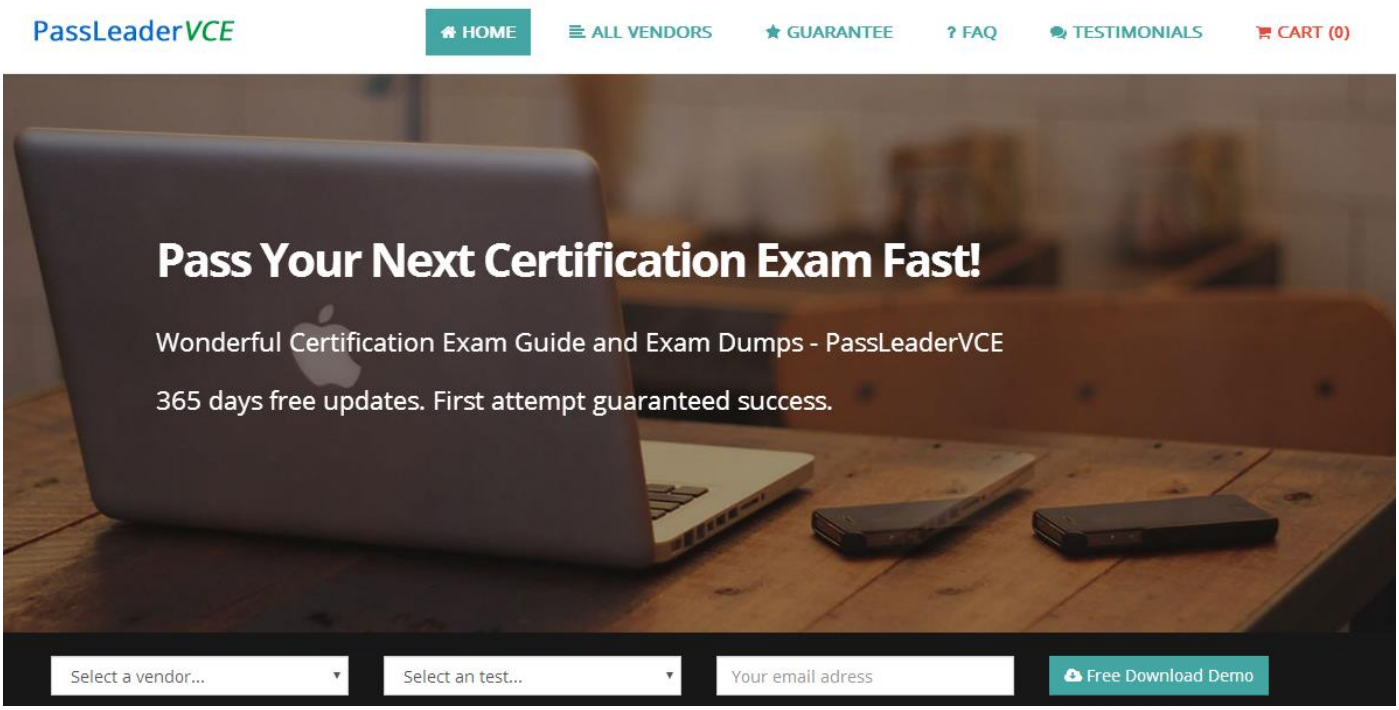

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Wonderful Certification Exam Guide and Exam Dumps- PassLeaderVCE

Exam : **4A0-220**

Title : Nokia GMPLS-Controlled Optical Networks

Vendor : Nokia

Version : DEMO

NO.1 A network with ROADM GMPLS nodes and optical transponder connections could have:
A. L0 restoration capabilities
B. L1 restoration capabilities
C. L0 and LI restoration capabilities
D. No restoration capabilities
Answer: C
Explanation
A network with ROADM GMPLS nodes and optical transponder connections could have both L0 and L1 restoration capabilities. L0 restoration refers to the ability of the network to recover from failures at the optical layer, such as fiber cuts or node failures, by rerouting the affected LSPs to alternative paths at the same layer.
L0 restoration can be achieved by using GMPLS signaling protocols, such as RSVP-TE or CR-LDP, to establish backup LSPs in advance or on demand. L0 restoration can provide fast recovery times and high availability for optical services34. L1 restoration refers to the ability of the network to recover from failures at the sub-wavelength layer, such as transponder failures or wavelength unavailability, by rerouting the affected LSPs to alternative paths at a higher layer. L1 restoration can be achieved by using GMPLS routing protocols, such as OSPF-TE or ISIS-TE, to advertise the sub-wavelength information and availability to other nodes in the network. L1 restoration can provide more flexibility and efficiency for sub-wavelength services56.
References:
* 3: GMPLS - Nokia
* 4: Generalized Multi-Protocol Label Switching - Wikipedia
* 5: Sub-Wavelength Switching - Nokia
* 6: Sub-Wavelength Switching in Optical Networks - IEEE Xplore

NO.2 Which of the following is not a key feature of GMPLS?
A. Self-discovery
B. Fast protection
C. Restoration
D. Resource optimization
Answer: D
Explanation
GMPLS is a protocol suite that extends the MPLS signaling and routing capabilities to control different types of switching technologies, such as optical, TDM, and packet switching1. GMPLS has several key features, such as self-discovery, fast protection, and restoration. Self-discovery allows GMPLS nodes to automatically discover their neighbors and exchange information about their capabilities and resources2. Fast protection enables GMPLS nodes to quickly switch to backup paths in case of a failure, without relying on the control plane3. Restoration allows GMPLS nodes to dynamically establish new paths in the network after a failure, using the control plane3. Resource optimization is not a key feature of GMPLS, but rather a potential benefit of using GMPLS to efficiently utilize the network resources and avoid over-provisioning. References:
* 1: Nokia GMPLS-controlled Optical Networks Course | Nokia
* 2: GMPLS - Nokia
* 3: Traffic survivability through Protection and Restoration Combined (PRC) - YouTube
* [4]: GMPLS: Architecture and Applications - Google Books

NO.3 Which label is swapped in an MPLS label stack at an intermediate node?

A. The label on the bottom

B. The label with the highest value

C. The label with the lowest value

D. The label on the top

Answer: D

Explanation

The label on the top of the MPLS label stack is swapped at an intermediate node. This is because the top label is the one that is visible to the node and determines the forwarding decision. The node looks up the top label in its label forwarding table and swaps it with a new label that corresponds to the next hop or destination. The node then forwards the packet to the next node, which repeats the same process. The bottom label is only used to indicate the end of the label stack and is not swapped.

References : [Nokia GMPLS-controlled Optical Networks Course | Nokia], [MPLS Label Stack - Nokia]