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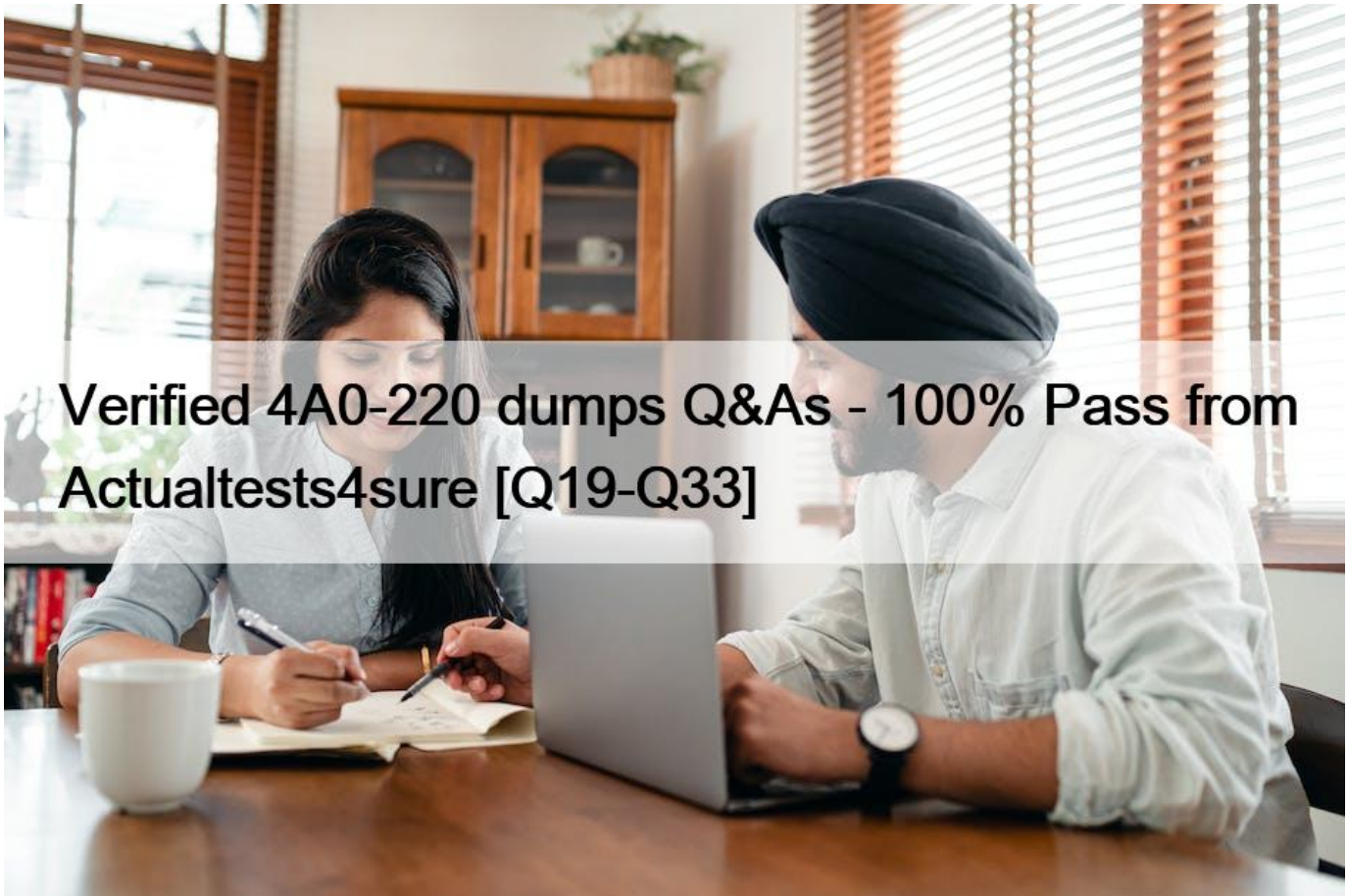

Verified 4A0-220 dumps Q&As - 100% Pass from Actualtests4sure Pass 4A0-220 Exam in First Attempt Guaranteed 2023 Dumps! NEW QUESTION 19

How are L0 and L1 resources coordinated in case of a failure in an MRN?

* Coordination is achieved by setting the color constraints
* Coordination is achieved by comparing the Setup Priorities
* Coordination is achieved by segregation of color and colorless LSPs
* Coordination is achieved by setting the WSR parameter

Explanation

Coordination of L0 and L1 resources in case of a failure in an MRN is achieved by setting the color constraints. Color constraints are used to specify which wavelengths or timeslots can be used by a given LSP request. By setting the color constraints, the NFM-T can ensure that the L0 and L1 resources are compatible and consistent across the network. For example, if an L0 LSP request requires a specific wavelength, the NFM-T can set the color constraint to match that wavelength and assign it to the L0 LSP. Similarly, if an L1 LSP request requires a specific timeslot, the NFM-T can set the color constraint to match that timeslot and assign it to the L1 LSP. This way, the coordination of L0 and L1 resources is achieved by ensuring that the same color is used by both layers. References : Nokia GMPLS-controlled Optical Networks Course | Nokia, 3.

GMPLS – Nokia

NEW QUESTION 20

Which of the following is not a key feature of GMPLS?
* Self-discovery
* Fast protection
* Restoration
* Resource optimization
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

NEW QUESTION 21

How can you modify the SNC Nominal Route in NFM-T?
* By changing the SRG constraints
* By using the Reroute Wizard to modify the constraints
* By using the Constraint Wizard to modify the constraints
* By putting the LSP in Test mode and moving traffic
Explanation

The SNC Nominal Route is the default or preferred route that is assigned to an LSP when it is created. The SNC Nominal Route is determined by the constraints that are specified by the user during the LSP creation process, such as cost, SRLG, color, bandwidth, protection, and regeneration. The user can modify the SNC Nominal Route in NFM-T by using the Constraint Wizard, which is a tool that allows the user to change the constraints for an existing LSP. The Constraint Wizard will then compute a new SNC Nominal Route based on the modified constraints and update the LSP accordingly34. References:

* 3: Nokia GMPLS-controlled Optical Networks Course | Nokia

* 4: Nokia Network Functions Manager for Transport User Guide | Nokia

NEW QUESTION 22

What is the GMRE notify address?
* The OSPF-TE broadcast IP used to flood the link adjacency information

* The LMP Control Channel ID. This field contains the IPv4 address of the ingress LER as a global unique identifier
* The email exchange server to notify the operators of network failures
* An IP address used to signal failures on downstream nodes upstream to the head node
Explanation

The GMRE notify address is an IP address used to signal failures on downstream nodes upstream to the head node. The GMRE notify address is configured on each GMRE node and is used to send a Notify message to the head node when a failure occurs on a link or node alongthe LSP. The Notify message contains the failure information and the LSP ID. The head node can then initiate a restoration process based on the Notify message. References : Nokia GMPLS-controlled Optical Networks Course | Nokia, GMPLS – Nokia

NEW QUESTION 23

What is the Link Maintenance window?
* A centralized view of the TE-link for the operator
* A wizard with commands to set links and nodes to maintenance
* A wizard for modifying TE-link attributes
* A centralized alarm manager
Explanation

The Link Maintenance window is a feature of NFM-T that allows the user to perform maintenance tasks on links and nodes in a GMPLS network. The Link Maintenance window is a wizard that provides commands to set links and nodes to maintenance mode, which prevents them from being used for routing new LSPs or carrying traffic. The user can also use the Link Maintenance window to reroute existing LSPs away from the links and nodes that are in maintenance mode, either manually or automatically. The Link Maintenance window helps the user to perform network maintenance operations without disrupting the service availability or quality12. References:

* 1: Nokia GMPLS-controlled Optical Networks Course | Nokia

* 2: Nokia Network Functions Manager for Transport User Guide | Nokia

NEW QUESTION 24

Which categories of protocols are included in the GMPLS technology?
* Signaling, routing, and forwarding
* Link management, signaling, and switching
* Routing, grooming, and signaling
* Routing, signaling, and link management
Explanation

The GMPLS technology includes three categories of protocols: routing, signaling, and link management.

Routing protocols are used to exchange information about the network topology, resources, and constraints among the nodes. Signaling protocols are used to establish, modify, and release Label Switched Paths (LSPs) across the network. Link management protocols are used to verify the connectivity and status of the links between adjacent nodes. References : Nokia GMPLS-controlled Optical Networks Course | Nokia, 3. GMPLS

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NEW QUESTION 25

What is the Commissioning File in GMRE nodes?

* A file with commissioned GMRE nodes for NPA implementation
* A file of optical impairment parameters for power balance
* A file with target values that determine whether a given LSP is possible
* A control checklist for the operator

Explanation

The Commissioning File in GMRE nodes is a file with target values that determine whether a given LSP is possible. The Commissioning File contains parameters such as power, OSNR, Q-factor, and dispersion that are used to evaluate the feasibility of an LSP request. The Commissioning File is generated by the Network Planning Application (NPA) based on the network design and optical impairments. The Commissioning File is uploaded to each GMRE node and is used by the CSPF algorithm to find a suitable path for the LSP. References : Nokia GMPLS-controlled Optical Networks Course | Nokia, Network Planning Application (NPA) | Nokia

NEW QUESTION 26

What does the SNC state with an uppercase "N" mean in a resource in NFM-T?

* Indicates it's using a link other than the Nominal
* Indicates the nominal resource on a TE-link that is not in use
* Indicates if s a higher alarm state level
* Indicates it's currently using the Nominal resource assigned to it

Explanation

The SNC state with an uppercase "N" means that the resource is currently using the nominal resource assigned to it. As explained in the previous question, a nominal resource is the default or preferred resource that is assigned to an LSP when it is created. If an LSP is using the nominal resource on a TE-link, it means that the LSP has not been rerouted or switched due to any failure or constraint violation. In this case, the SNC state of the resource will be "N", indicating that it is in use by an LSP12. References:

* 1: Nokia GMPLS-controlled Optical Networks Course | Nokia

* 2: Nokia Network Functions Manager for Transport User Guide | Nokia

NEW QUESTION 27

What does an SNC state of lower case "n" mean for a resource in NFM-T?

* Indicates it's using a link other than the Nominal
* Indicates the nominal resource on a TE-link that is not in use
* Indicates if s a higher alarm state level
* Indicates it's currently using the Nominal resource assigned to it

Explanation

The SNC state is a parameter that indicates the status of a resource in a GMPLS network. A resource can be a link, a wavelength, a timeslot, or a fiber. The SNC state can have different values, such as N, n, P, p, R, r, and so on. Each value has a specific meaning and implication for the resource and the LSP that uses it. The SNC state of lower case "n" means that the resource is the nominal resource on a TE-link that is notin use. A nominal resource is the default or preferred resource that is assigned to an LSP when it is created. A TE-link is a logical link that represents a set of resources that share the same attributes and constraints. A TE-link can have multiple resources, such as wavelengths or timeslots, but only one of them can be the nominal resource.

If an LSP is using a resource other than the nominal resource on a TE-link, it means that the LSP has been rerouted or switched due to a failure or a constraint violation. In this case, the SNC state of the nominal resource will be “n”, indicating that it is not in use by any LSP12. References:

* 1: Nokia GMPLS-controlled Optical Networks Course | Nokia

* 2: Nokia Network Functions Manager for Transport User Guide | Nokia

NEW QUESTION 28

Which label is swapped in an MPLS label stack at an intermediate node?
* The label on the bottom
* The label with the highest value
* The label with the lowest value
* The label on the top
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]

NEW QUESTION 29

What is the function of the OSPF-TE protocol?
* To monitor the availability of the links interconnecting adjacent nodes
* To exchange with other nodes data about the state of links
* To assign different priority to various types of transported signals
* To create an MPLS tunnel between two or more end points
Explanation

The OSPF-TE protocol is an extension of the Open Shortest Path First (OSPF) protocol that is used to exchange information about the state of links in a GMPLS network. OSPF-TE advertises link attributes such as bandwidth, latency, priority, protection, or switching capabilities to other nodes in the same area. OSPF-TE enables nodes to build a Traffic Engineering Database (TED) that contains the topology and resource information of the network. OSPF-TE helps nodes to perform CSPF calculations and establish LSPs using RSVP-TE signaling. References : Open Shortest Path First – Wikipedia, Understand Open Shortest Path First (OSPF) – Design Guide, RSVP-TE and OSPF-TE extensions for GMPLS

NEW QUESTION 30

What is the purpose of the Upstream Label Object in RSVP-TE?
* It allows for a label to be suggested to provision bidirectional LSPs.
* It signals resource reservation information to upstream nodes.
* It allows a node to restrict the labels that may be used downstream.
* It indicates the LSP flow direction.
Explanation

The Upstream Label Object in RSVP-TE is an optional object that allows a node to suggest a label to its upstream neighbor for the purpose of provisioning bidirectional LSPs. The upstream label object is carried in the Resv message and contains the label value

that the node wants to use for receiving traffic from its upstream neighbor. The upstream neighbor can accept or reject the suggested label based on its local policy and resource availability. The upstream label object simplifies the label allocation process for bidirectional LSPs and avoids the need for additional signaling messages. References : RSVP-TE – Hewlett Packard Enterprise, RSVP – Nokia

NEW QUESTION 31

How do you configure the Trail template in NFM-T for an Uplink board (such as 2UC400) in an MRN network with LO and LI restoration capabilities?
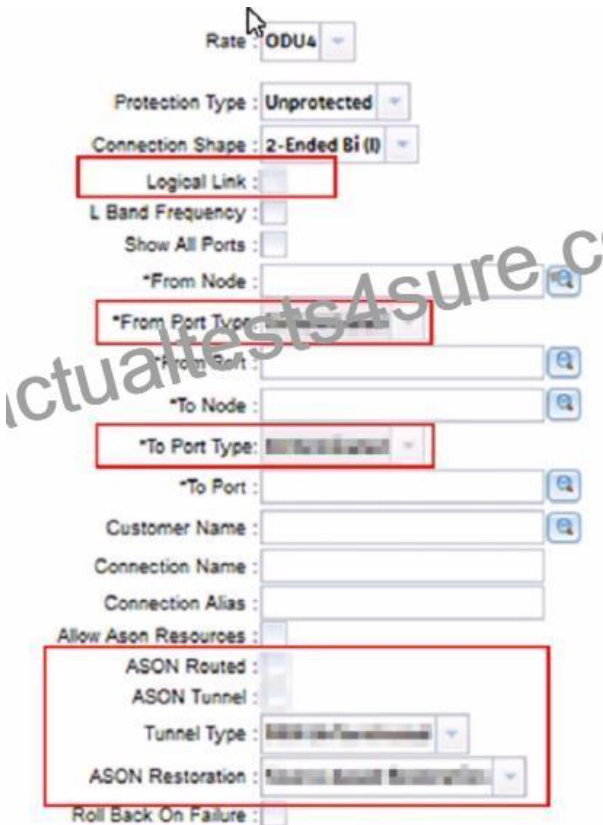
* Check the Logical Link box

Set the Port Type to Unterminated Check the ASON Routed box Uncheck the ASON Tunnel box
* Uncheck the Logical Link box Set the Port Type to Terminated Check the ASON Routed box Uncheck the ASON Tunnel box
* Check the Logical Link box

Set the Port Type to Unterminated Check the ASON Routed box Check the ASON Tunnel box
* Uncheck the Logical Link box Set the Port Type to Terminated Check the ASON Routed box Check the ASON Tunnel box
Explanation

To configure the Trail template in NFM-T for an Uplink board (such as 2UC400) in an MRN network with LO and LI restoration capabilities, you need to check the Logical Link box, set the Port Type to Unterminated, check the ASON Routed box, and uncheck the ASON Tunnel box. This configuration allows you to create a logical link between two Uplink boards that can be used for LO or LI restoration. The logical link is not terminated at the Uplink board, but at the OTU board. The ASON Routed option enables the GMPLS control plane for the logical link, while the ASON Tunnel option is not applicable for Uplink boards. References : Nokia Advanced Optical Network Management with NFM-T Course | Nokia, Nokia 1830 PSS-4, PSS-8, PSS-16 and PSS-32 Platforms

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NEW QUESTION 32

Which of the following statements best describes a distributed control plane for GMPLS?
* The control plane is active in some network nodes and not in others.
* Each router has software to run the GMPLS protocols and can modify the node’s switching fabric.
* The network manager controls all the routing for the network.
* The network is managed by more than one network management system.
Explanation

A distributed control plane for GMPLS means that each router has software to run the GMPLS protocols and can modify the node’s switching fabric. This allows the routers to communicate with each other and establish Label Switched Paths (LSPs) across the network without relying on a centralized controller or network manager. A distributed control plane can improve the scalability, reliability, and efficiency of the network. References : Nokia GMPLS-controlled Optical Networks Course | Nokia, GMPLS – Nokia

NEW QUESTION 33

Which of the following statements about the Wait for Server Restoration (WSR) parameter in the MRN is correct?
* When WSR is true, the LO optical channel remains in the link until the failure is fixed.
* When WSR is false, if the failed optical channel can be restored at LO, the data traffic stays in the tunnel.
* When WSR is true, the LO channels do not wait for the LI services to restore.
* When WSR is false, the LI services do not wait for the LO restoration and restore through LI switching.
Explanation

The Wait for Server Restoration (WSR) parameter in the MRN is a boolean parameter that determines whether an LI service should wait for the LO restoration or not in case of a failure.When WSR is false, the LI services do not wait for the LO restoration and restore through LI switching. This means that if an LO optical channel fails, the LI services that use that channel will switch to another available optical channel at LI layer without waiting for the LO layer to restore the failed channel. This option provides faster restoration time for LI services, but may result in suboptimal resource utilization at LO layer. When WSR is true, the LI services wait for the LO restoration and do not switch at LI layer. This means that if an LO optical channel fails, the LI services that use that channel will remain in that channel until the LO layer restores it or until a timeout occurs.

This option provides optimal resource utilization at LO layer, but may result in longer restoration time for LI services. References : Nokia GMPLS-controlled Optical Networks Course | Nokia, 3. GMPLS – Nokia

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