4A0-205 Dumps

Nokia Optical Networking Fundamentals

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NEW QUESTION 1
Where is the OPS card equipped to provide the optical channel protection?

A. Between the transponder and the amplifiers
B. Between the filters and the amplifiers
C. Before the transponder, on the clientside, towards the external device
D. Between the transponder and the filter

Answer: A

Explanation:
According to the Nokia's 1830 Photonic Service Switch (PSS) product documentation, the Optical Protection Switching (OPS) card is equipped in the transponder and is responsible for providing optical channel protection between the transponder and the amplifiers. The OPS card monitors the optical signal and switches to a pre-configured protection path in case of signal degradation or loss.

NEW QUESTION 2
What is the metro area network?

A. The metro area network is that portion of network that passes through a city to provide connections to several customers.
B. The metro area network is located between access and core domains.
C. The metro area network is made of OCS/SWDM nodes only, as no pure photonic nodes are used here.
D. The metro area network is located in between two access area networks and made of photonic nodes only (no OCS/SWDM nodes are used there).

Answer: A

Explanation:
The Metro Area Network (MAN) is a telecommunications network that spans a metropolitan area and connects multiple local area networks (LANs) or business networks together. It typically covers an area that is larger than a LAN but smaller than a wide area network (WAN). The purpose of a MAN is to provide a high-bandwidth, low- latency communication infrastructure for businesses and other organizations in a metropolitan area.
Reference:
Cisco, "Metro Ethernet Services,"https://www.cisco.com/c/en/us/solutions/service-provider/metro-ethernet-services/index.html
Techopedia, "Metro Area Network (MAN),"https://www.techopedia.com/definition/26896/metro-area-network-man

NEW QUESTION 3
What is a trail?

A. An entity to encapsulate a low order signal into a high order container
B. A transparent transport of a client signal
C. A link between end points to increase the power budget of the optical link
D. A physical link between two optical amplifiers

Answer: B

Explanation:
A trail is a transparent transport of a client signal. A trail is a physical link between two points in an optical network, allowing for the transport of a client signal from one point to the other. It is a low-order signal, such as a 10G Ethernet or a Fibre Channel signal, encapsulated into a high-order container, such as a 40G or 100G signal. This allows for the transport of the client signal over longer distances, increasing the power budget of the optical link.

NEW QUESTION 4
Which application generates the commissioning file(s)?

A. NFM-T
B. NSP
C. CPB
D. EPT

Answer: C

Explanation:
The CPB (Commissioning Parameter Builder) application is used to generate the commissioning files for a Nokia 1830 Photonic Service Switch (PSS-1). The CPB application allows the user to create multiple commissioning files [1][2], which can be used to configure a variety of different features on the device. The CPB also allows users to view, edit and modify the commissioning files before they are uploaded to the device. The NSP (Network Service Platform) and EPT (Element Provisioning Tool) are used to manage the devices and network elements within the network, but do not generate commissioning files.

NEW QUESTION 5
What is the definition of OSNR?

A. The OSNR is defined as the ratio between the transmitted optical power and the received optical power over 1 km of fiber including both signal and optical noise.
B. The OSNR is the ratio between the optical output signal power and the optical input signal power of the device being analyzed.
C. The OSNR is defined as the ratio between the average optical signal power and the average optical noise power over a specific spectral bandwidth.
D. The OSNR is defined as the ratio between the optical signal power (including noise) and the optical noise power over a specific spectral bandwidth.

Answer: C

Explanation:

The OSNR is defined as the ratio between the average optical signal power and the average optical noise power over a specific spectral bandwidth. This is also known as the signal-to-noise ratio (SNR), and it is a measure of how much signal is present in the optical signal compared to the noise, usually expressed in decibels (dB).

NEW QUESTION 6
What does it take to get connected to the NSP platform?

A. A browser and the NSP IP address; and from the landing page, the NSP application should be downloaded and launched.
B. A browser and the NSP IP addres
C. Then, a browser plugin needs to be installed and the laptop rebooted before the NSP can be correctly reached.
D. A browser, the NSP IP address, and the credentials to access the web-based interface (WebUI).
E. The NSP package should be downloaded from the Nokia website and properly licensed for thespecific workstation to be used.

Answer: C

Explanation:
 To get connected to the Nokia Service Platform (NSP) platform, you need a browser and the NSP IP address. Then, you need the credentials to access the web-based interface (WebUI) for the NSP platform. Once you have these, you can access the NSP platform from a web browser.

NEW QUESTION 7
Which statement is correct about the NFM-T network map?

A. It automatically represents all nodes grouped by the location string assigned during theNE creation.
B. It represents all supervised nodes grouped by alarm status (with a different color).
C. It allows context sensitive navigation and represents nodes and related physical connections with different color
D. depending on the active alarms.
E. It allows the graphical visualization of the services deployed in the network with the details of the boards involved in the service.

Answer: C

Explanation:
 The NFM-T network map provides a graphical view of the network with different colors used to represent each node, physical connection, and active alarm. It allows the user to quickly identify any issues in the network and provides context sensitive navigation.

NEW QUESTION 8
Which of the following sentences about FlexGrid is false?

A. FlexGrid allows a more efficient channel spacing.
B. Channels in FlexGrid systems are allocated with a granularity of 27.5GHz.
C. FlexGrid systems use specific sets of board
D. Old generation WDM systems need to be upgraded to support FlexGrid.
E. The FlexGrid is currently standardized by ITU-T.

Answer: C

Explanation:
 FlexGrid is a flexible grid technology that allows for variable channel spacing and bandwidth allocation. It uses the same sets of boards as the traditional fixed grid systems and it does not require upgrading the old generation WDM systems.
References:
? "Flexible Grid Optical Networks: From Concepts to Realizations" by Diomidis S. Michalopoulos and George K. Karagiannidis
? "Flexible Grid and Flexible Spectrum Optical Networks" by Diomidis S. Michalopoulos and George K. Karagiannidis
? "Flexible Grid Optical Networks" by Diomidis S. Michalopoulos and George K. Karagiannidis

NEW QUESTION 9
Which mechanisms can be put in place to increase network survivability?

A. Protection, where backup resources are pre-allocated and reserved; or restoration, where each trail can be recovered thanks to a 1+1 protection mechanism
B. Protection, where backup resources are allocated upon failure; or restoration, where each trail can be recovered thanks to a 1+1 protection mechanism
C. Protection, where backup resources are allocated upon failure; or restoration, where backup resources are pre-allocated and reserved
D. Protection, where backup resources are pre-allocated and reserved; or restoration, where backup resources are allocated upon failure.

Answer: D

Explanation:
 There are two main mechanisms that can be put in place to increase network survivability: protection and restoration. Protection involves pre-allocating and reserving backup resources so that they are ready in case of a failure. Restoration involves allocating backup resources upon failure and using a 1+1 protection mechanism to recover each trail. This ensures that the network is able to re-route traffic in the event of a failure, increasing the overall survivability of the network.

NEW QUESTION 10
When monitoring the quality of the received signal in WDM, an open eye indicates:

A. Low noise
B. High distortion
C. High jitter
D. Presence of high inter-symbolic interference

Answer: A

Explanation:
An open eye pattern indicates that the signal is not affected by noise, and the received signal is of high quality. This is because an open eye pattern is the result of a signal that is aligned in time, and is not affected by noise or other distortions.
References:
? "Optical Fiber Communications" by Gerd Keiser
? "Fiber-Optic Communications Technology" by Djafar K. Mynbaev
? "Optical Communications" by Gerd Keiser

NEW QUESTION 10
Which of the following is an example of optical protection mechanism?

A. Optical regeneration (e.g., back-to-back regeneration)
B. OSNCP (e.g., via Y-cable or OPS card)
C. GMPLS-enabled SBR
D. GR and SBR combined

Answer: B

Explanation:
It can be implemented through the use of a Y-cable or an optical protection switch (OPS) card, which allows for the switching of traffic to a secondary path in the event of a failure on the primary path. This type of protection is commonly used to protect against fiber cuts and other types of physical layer failures in the optical transport network.

NEW QUESTION 12
Is it possible to select the fiber type independently for each segment while designing a network in EPT?

A. Yes, during the link creation through the wizard
B. No, a unique type is allowed per design for all segments
C. No, as the fiber type is selected for links only and it's one for whole design
D. Yes, during the segment creation phase or editing

Answer: D

Explanation:
Yes, during the segment creation phase or editing. It is possible to select the fiber type independently for each segment while designing a network in EPT. This can be done during the segment creation phase or when editing an existing segment. This allows for more flexibility when designing the network and allows for more efficient use of resources.

NEW QUESTION 14
What is a degree-1 node?

A. A node with only one direction and therefore a terminal node
B. A node with only one express channel and therefore made of two sides
C. A node with only east and west sides without directions towards north and south
D. A node with one direction only and therefore used as In-Line-Amplifier (ILA)

Answer: A

Explanation:
A degree-1 node is a node that only has one direction, and it is therefore a terminal node. This means that the node only has one input and one output port. It does not have any other ports to connect to other nodes or fibers. This is a common feature of some optical transport networks, such as ring networks, where a degree-1 node serves as the endpoint of the ring.

NEW QUESTION 19
Is it possible to modify node parameters within the edit EPT menu?

A. Yes, the user can apply manual changes directly from this view
B. Yes, but the user can modify only the node name and location
C. No, this view is used to display a close-up view of the node
D. Yes, the user can apply manual changes but only for non-GMPLS nodes, as the control plane reserves node resources not editable by the user

Answer: D

Explanation:
Yes, the user can apply manual changes but only for non-GMPLS nodes, as the control plane reserves node resources not editable by the user. The edit EPT menu allows the user to view information about a node but is not used to modify node parameters. The user can only apply manual changes to non-GMPLS nodes, as the control plane reserves node resources which cannot be modified by the user.

NEW QUESTION 24
How is it possible to check the activation status of GMRE on a node?

A. The GMRE reachability can be tested via ping request from NFM-T
B. The ControlPlane status column on the node list displays the GMRE status for the selected node
C. The GMRE activation status is reported in the supervision state column on the node list
D. The GMRE activation status is reflected on the color of the icon representing the node

Answer: C

Explanation:
The GMRE activation status is reported in the supervision state column on the node list. The supervision state column displays the GMRE status of the node, which is either "Activated" or "Not Activated". This allows the user to quickly check the GMRE activation status of a node without having to ping the node from the NFM-T platform.

NEW QUESTION 29
What is a Shared Risk Group (SRG)?

A. A set of fibers that share the same latency risk
B. A set of boards that share the same failure risk
C. A set of nodes that share a common risk of hardware failure
D. A set of network resources that share a common failure risk

Answer: D

Explanation:
According to the Nokia Optical Networking documentation, a Shared Risk Group (SRG) is defined as "a set of network resources that share a common failure risk. When a resource in an SRG fails, the other resources in the group are also affected." This can include fibers, boards, nodes, and other network resources. The SRG concept is used in network design and protection mechanisms to ensure survivability and minimal impact on service in case of a failure.

NEW QUESTION 31
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