

Nokia Optical Diagnostics and Troubleshooting Practice Exam

The following questions will test your knowledge and prepare you for the Nokia Optical Diagnostics and Troubleshooting exam. Compare your responses with the Answer Key at the end of the document.

1. Which of the following packs are crossed by services?
 - a. WR8s, CWR8s, and optical amplifiers.
 - b. Optical transponders, SVACs, WR8s, optical amplifiers, and EC.
 - c. Optical transponders, USRPNLs, CWR8s, and optical amplifiers.
 - d. Optical transponders, MVACs, power supplies, and Raman amplifiers.
2. How can the OSC signal be generated/terminated?
 - a. The OSC signal is generated/terminated by ingress amplifiers.
 - b. There is a specific pluggable that generates/terminates the signal. It is equipped in both ingress and egress amplifiers.
 - c. The OSC SFP generates/terminates the signal. It is equipped in egress amplifiers only.
 - d. The OSC SFP generates/terminates the signal. It is equipped in ingress amplifiers only.
3. Which set of EPT Power Management attributes is most useful when troubleshooting power-related issues?
 - a. Egress per-channel output power, Per-channel power deviation, Minimum/maximum amplifier gain, Allowed amplifier delta gain, and SCOT timeout interval.
 - b. Egress per-channel output power, Per-channel power deviation, Minimum/maximum amplifier gain, Allowed amplifier delta gain, and Auto tilt adjustment.
 - c. Egress per-channel output power, Per-channel power deviation, Minimum/maximum amplifier gain, and WSS overhead.
 - d. All parameters/values reported under "Power Management Data" in the Excel commissioning report from the EPT.
4. What happens if the user changes the per-channel optical power value at an ingress amplifier interface?
 - a. The system will change the configuration of the upstream boards within the node in order to achieve the new target value. This happens only after a power adjustment is triggered on the relevant amplifier.
 - b. The system will increase/decrease the VOA into the amplifier to achieve the new target value. This happens only after a power adjustment is triggered on the relevant amplifier.
 - c. Since the parameter cannot be changed, the system will raise a power-related alarm, and the network should be recommissioned to clear it.
 - d. Power-related alarms will raise to highlight a discrepancy between the design and the current node configuration. This happens only after a power adjustment is triggered on the relevant amplifier.

5. What can be determined if the physical topology of a node matches the EPT schematic view?
 - a. The design is consistent with the current configuration. The node commissioning has been done correctly.
 - b. The physical topology is discovered by the node, once it is cabled. If it is consistent with the design, it guarantees that the commissioning has been done correctly.
 - c. It cannot be determined that the node commissioning has been done correctly until the “commissioning” phase of the CPB process is running and completed correctly.
 - d. Although the design is consistent with the current configuration, the actual physical cabling may be different.
6. Which of the following statements best describes the differences between alarms and conditions?
 - a. Conditions include alarms, non-reported events, and special node states (such as software loopbacks). Conditions can be customized through alarm profiles.
 - b. Alarms include conditions and non-reported events. Conditions include masked alarms and special node states (such as software loopbacks).
 - c. Conditions include alarms, non-reported events, and masked alarms. Alarms can be customized through alarm profiles.
 - d. Alarms include conditions. Conditions include non-reported events, masked alarms, and special events (such as protection switches).
7. Which items are displayed from the Logs view?
 - a. Raise/clear times for alarms and conditions, general events, pack restarts, board switches, traffic switches, and menus used by logged in users.
 - b. Current alarms and conditions, general events, pack restarts, board switches, traffic switches, card insertions/extraction events, and menus used by logged in users.
 - c. Raise/clear times for alarms and conditions, general events, pack restarts, board switches, traffic switches, and card insertions/extraction events.
 - d. Current alarms and conditions, general events, pack restarts, board switches, traffic switches, and card insertions/extraction events.
8. Where can Performance Monitoring (PM)/ Wavelength Tracker (WT) data be detected?
 - a. In the OT, SFD, CWR8, Optical Amplifier, and DCM.
 - b. In the OT, CWR8, Optical Amplifier, and WR8.
 - c. In the OT, ITLB, CWR8, Optical Amplifier, and WR8.
 - d. In the OT, CWR8, Optical Amplifier, and ITLU.
9. Where does a facility loopback apply?
 - a. On OT line ports only. The loopback is implemented toward the internal side of the board.
 - b. On OT line ports only. The loopback is implemented toward the line interface.
 - c. On both OT client and line ports. The loopback is implemented toward the internal side of the board.
 - d. On both OT client and line ports. The loopback is implemented toward the corresponding interface.

10. What is the result of the following CLI command?

show interface 130SCX10 1/11/L1 PM opt 0 0

- a. The system displays the current 15-min PM counter, related to the “Optical Power Transmitted” PM Group for L1 interface of the 130SCX10 module.
 - b. The system clears the current 15-min PM counter, related to the “Optical Power Transmitted” PM Group for L1 interface of the 130SCX10 module.
 - c. The syntax of the command is incorrect because the first parameter set to “0” is not a valid value.
11. The syntax of the command is incorrect because the second parameter set to “0” is not a valid value. Where is the “Power Management” task located in the 1830 PSS WebUI?
- a. In amplifier and OT line ports.
 - b. In amplifier line ports only.
 - c. In amplifier and WR line ports.
 - d. In amplifier, OT, and WR line ports.
12. Suppose that a fiber has been cut and then it has been recovered. What alarms can be expected on the involved nodes?
- a. It depends on the duration of the fiber cut. If it was cut for less than 8 minutes, a “Power adjustment required” alarm is automatically raised.
 - b. It depends on the duration of the fiber cut. If it was cut for more than 8 minutes, a “Power adjustment required” alarm is raised, but only if the user triggers a power adjustment.
 - c. No alarms will appear, as long as the span attenuation has not changed.
 - d. A “Power adjustment required” alarm only is raised, as long as the span attenuation is the same.
13. What happens when the port power management “Commissioned Status” attribute is set to “In Progress”?
- a. No further network provisioning is allowed.
 - b. No SCOT power management messages are automatically exchanged with the adjacent network element connected on that link.
 - c. An alarm will raise to warn the user about non-commissioned links.
 - d. None of the above. The Commissioning and Power Balance (CPB) tool will be set to “Commissioned” on the successfully completed links only.
14. Are Wavelength Tracker (WT) measurements available on SFD and FSH units?
- a. Neither SFD nor FSH support WT measurements because both are passive modules.
 - b. SFDs are passive packs and do not support WT measurements. FSHs are active packs and support WT measurements.
 - c. FSHs are passive packs and do not support WT measurements. SFDs are active packs and support WT measurements.
 - d. SFDs and typical FSHs are passive packs and do not support WT measurements. However, the very latest releases of FSH devices do support WT measurements.

15. Which kind of network problems can be addressed using the Wavelength Tracker (WT) capability?
 - a. Incorrect fiber connections, missing fibers, damaged packs, missing or unexpected channels, and malformed client frames.
 - b. Incorrect fiber connections, missing fibers, bent, damaged or dirty fibers/connectors, damaged packs, and missing or unexpected channels.
 - c. Incorrect fiber connections, missing fibers, bent, damaged or dirty fibers/connectors, damaged packs, missing or unexpected channels, and incorrect inventory cable connections.
 - d. Incorrect fiber connections, missing fibers, bent, damaged or dirty fibers/connectors, damaged packs, malformed client frames, and incorrect inventory cable connections.

16. Is it possible to get Wavelength Tracker (WT) measurements of the whole optical chain by checking a single node?
 - a. No, as the WT measurements are per node only. Every node in the chain must be checked.
 - b. Yes, but only using CLI specific commands.
 - c. Yes, by using either the WebUI graphical representation or through the CLI.
 - d. Yes, by retrieving the WT tabular format using the WebUI or the CLI.

17. Which of the following provides the most accurate descriptions of the given APR alarms?
 - a. APR-LINE is raised because of generic issues on the line span.
APR-NODE is raised because of generic issues within a node.
 - b. APR-LINE is raised after a fiber cut has been recovered on the transponder line fiber jumper.
APR-NODE is raised after a fiber cut has been recovered within a node.
 - c. APR-LINE is raised because of fiber cut issues on the transponder line fiber jumper.
APR-NODE is raised because of fiber cut issues within a node.
 - d. APR-LINE is raised because of fiber cut issues on the line span.
APR-NODE is raised because of fiber cut issues within a node.

18. The following alarms are reported against two adjacent nodes:
 - “LD Input LOS” at optical amplifiers line interfaces
 - “Loss of Signal – OUT” at OT line interfaces
 - “APR Active – Line” at both optical amplifiers and Raman pumps
 - “Input LOS” at Raman amplifier

What kind of issue could have caused these alarms?

- a. Hardware or software issue at the OSC interface, but traffic is up as no missing channel-related alarms are raised.
- b. A unidirectional fiber cut between the two adjacent nodes.
- c. A bidirectional fiber cut between the two adjacent nodes.
- d. Physical issue at one of the two Raman pumps.

19. What happens in case of an Optical Supervisory Channel (OSC) pluggable failure?
- a. Traffic is dropped, because the OSC signal is not detected anymore and the amplifiers enter the APR mode.
 - b. Traffic stays up, and a “Data link down” alarm is raised.
 - c. Traffic is down only if a Raman pump is configured on the link, for safety reasons.
 - d. Traffic is up but degraded, as the amplifiers enter the APR mode and the launch power might not be sufficient to reach the other end.
20. What is the relation between the “encapsulation mode” and the “payload type” settings against Optical Transponders (OTs)?
- a. Payload type regulates the way the payload is mapped within the data frame. When changing the payload type, the encapsulation mode changes accordingly.
 - b. Encapsulation mode regulates the way the payload is mapped within the data frame. When changing the encapsulation mode, the payload type changes accordingly.
 - c. These parameters are independent. When changing one of them, the other does not change automatically.
 - d. The encapsulation mode is related to the client rate, while the payload type is related to the line rate. When changing the payload type, the encapsulation mode changes accordingly.

Answer Key

1. A	6. C	11. B	16. D
2. D	7. C	12. D	17. D
3. B	8. B	13. B	18. C
4. A	9. D	14. A	19. B
5. D	10. A	15. B	20. B

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