



**"Please note that these files may not be up to date. However, the questions will help you understand the exam format and typical question patterns."**

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### Question: 1

Modulation is a process where the information of a signal source is processed and added to a carrier to make the information suitable for channel transmission. It is a technology where a carrier changes with a signal.

- A. TRUE
- B. FALSE

**Answer: A**

### Question: 2

Which of the following are not features of WDM network expansion?

- A. Increased network complexity
- B. No impact on existing services during the expansion
- C. Maximized protection of existing investment
- D. It takes a long time.

**Answer: A, D**

### Question: 3

Which of the following is not an advantage of WDM?

- A. Transparent transmission of data
- B. Various overheads
- C. Ultra-large capacity and ultra-long haul transmission
- D. Flexible, economical, and reliable networking

**Answer: D**

### Question: 4

Which of the following features is used by a laser to coherently receive optical signals and restore the amplitude, phase, and state of polarization information from the received signals?

- A. Same oscillation direction
  - B. Same amplitude
  - C. Opposite oscillation directions
  - D. Same frequency
-

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**Answer: D**

**Question: 5**

Fill in Blank

Wavelength division multiplexing (WDM) refers to a technology that transmits optical signals at over one optical fiber. (Enter only lowercase letters.)

**Answer: Difference**

**Question: 6**

QPSK modulation reduces OSNR requirements and fiber non-linear effects, and Improves dispersion tolerance and PMD tolerance.

- A. TRUE
- B. FALSE

**Answer: A**

**Question: 7**

Which of the following statements about the TMB1AST2 board are true?

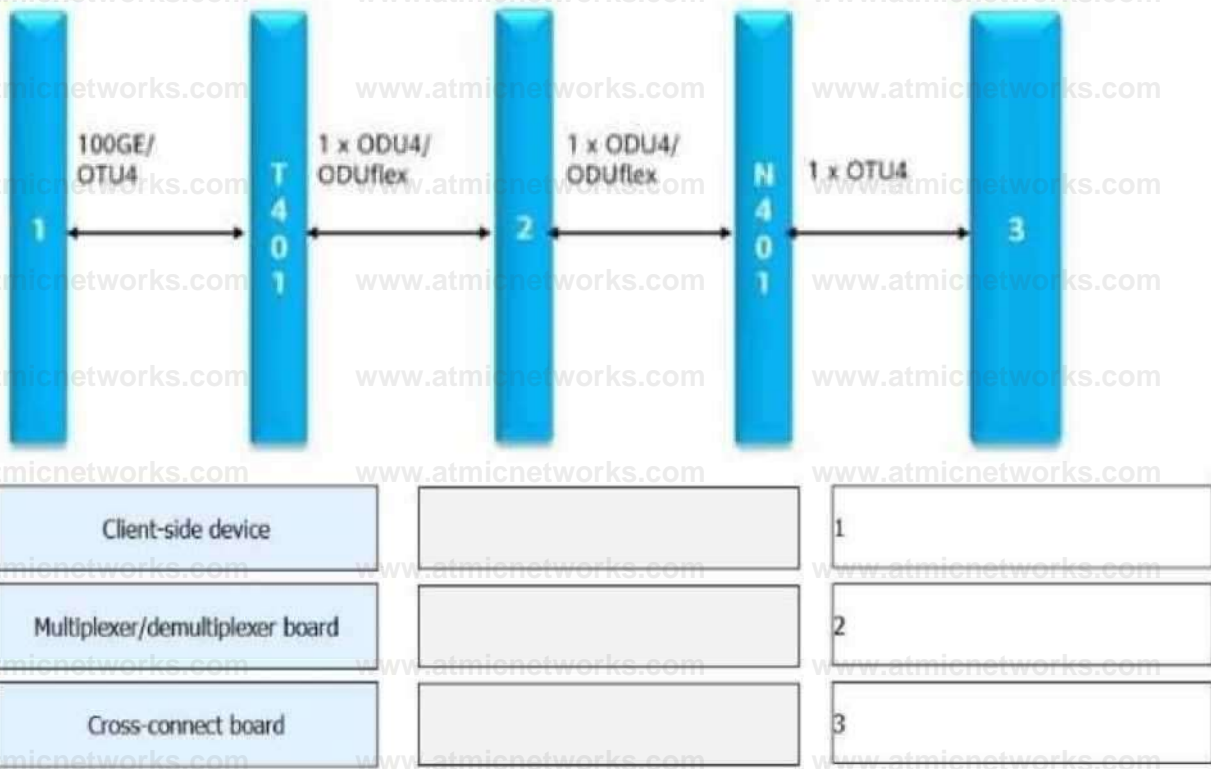
- A. The TM1 optical port must be connected to the TMI1 optical port.
- B. The TMB1AST2 board supports the IEEE 1588v2 clock processing and OTDR functions.
- C. When the board is working with a DFIU03/DFIU04 board, the OSC optical port must be configured with an optical module that supports the 1511 nm wavelength.
- D. When the board is working with a DSFIU01/DSFIU02 board, the TM1/RM1 optical port must be configured with an optical module that supports the 1511 nm wavelength, and the TM2/RM2 optical port must be configured with an optical module that supports the 1491 nm wavelength.



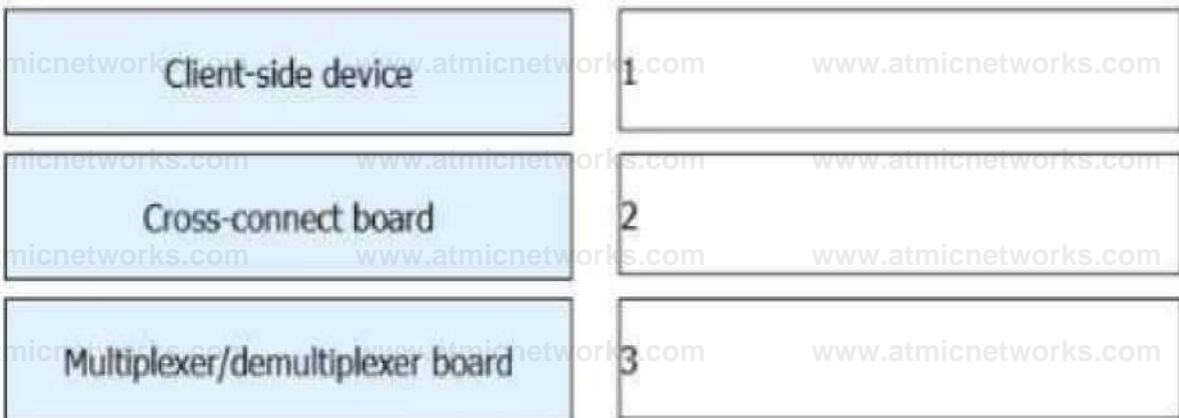
### Question: 8

DRAG DROP

Drag the correct answer to the corresponding number in the picture.



**Answer:**



### Question: 9

Fill in Blank

The OA module inside an EMR8 board provides the function. With this function, when one or more channels are added or dropped or optical signals of some channels fluctuate, the signal gain of other channels is not affected, (Enter only lowercase letters.)

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**Answer: Gain locking**

**Question: 10**

Which of the following statements about a ROADM site are true?

- A. It implements flexible adding and dropping of intra-site wavelengths.
- B. It supports automatic optical power adjustment
- C. It must be used when optical-layer ASON is required.
- D. It must be used when electrical-layer ASON is required.

**Answer: A, B, C**

**Question: 11**

Which of the following fiber types complies with the description that the dispersion at 1310 nm is 0 and the typical dispersion coefficient around 1550 nm is 17 ps/nm.km?

- A. G.654
- B. G.652
- C. G.655
- D. G.653

**Answer: B**

**Question: 12**

Which of the following statements about the OptiXtrans E6600/OptiX OSN 1800 system architecture is true?

- A. The OptiXtrans E6608T/E6608/E6616 and OptiX OSN 1800 II TP/OSN 1800 II Pro/OSN 1800 V Pro use the L0+L1+L2 system architecture.
- B. The OptiXtrans E6608T/E6616 and OptiX OSN 1800 II TP/OSN 1800 V Pro use an L0+L1+L2 system architecture.
- C. The OptiXtrans E6616 and OptiX OSN 1800 V Pro use an L0+L1+L2 system architecture.
- D. The OptiXtrans E6608T/E6608 and OptiX OSN 1800 II TP/OSN 1800 II Pro use an L0+L1+L2 system architecture.

**Answer: B**

**Question: 13**

Which of the following statements about ODUflex are true?

- A. Users can flexibly configure the ODUflex capacity based on the service volume.
- B. The ODUflex rate is defined as  $N \times 1.25$  Gbit/s. The ODUflex bandwidth is adjusted by changing the value

of N.

- C. ODUflex improves bandwidth utilization.
- D. The TOA board does not support ODUflex.

**Answer: A, C**

### Question: 14

An RDU9 board can dynamically demultiplex any wavelength to any port.

- A. TRUE
- B. FALSE

**Answer: B**

### Question: 15

Which of the following terms has the meaning that "the wavelength carrying local services can be transmitted to a specific direction"?

- A. Directioned
- B. Directionless
- C. Colorless
- D. Colored

**Answer: A**

### Question: 16

Fill in Blank

A VOA is configured on each wavelength path of a WSS board to adjust the of optical signals to achieve flatness adjustment. (Enter only lowercase letters.)

**Answer: Power**

### Question: 17

What are characteristics of ROADM networking?

- A. During network maintenance, wavelengths can be efficiently modified, reducing maintenance costs.
- B. Existing services are not affected while they are being upgraded.
- C. The power equalization function enables channel-level power equalization.
- D. Network construction costs are low.

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**Answer: B, C**

**Question: 18**

The core component of ROADM is a wavelength selective switch (WSS).

- A. TRUE
- B. FALSE

**Answer: A**

**Question: 19**

Fill in Blank

The decrease of optical power when light passes through a passive optical component is called the . (Enter only letters.)

**Answer: insertion  
loss**

**Question: 20**

To prevent the optical power at the receive end of an OTU board from being excessively high, you must configure a fixed attenuator according to the actual optical power. The fixed attenuator is usually configured at the transmit end.

- A. TRUE
- B. FALSE

**Answer: B**

**Question: 21**

In an OA system, the lower threshold of the receive optical power of a line board (with a PIN receiver laser) or the WDM side of an OTU board is the optical module's receiver sensitivity plus 5 dB.

- A. TRUE
- B. FALSF

**Answer: B**

**Question: 22**

In an OA-free system, the lower threshold of the receive optical power of a line board or the WDM side of an OTU board is the optical module's receiver sensitivity plus 3 dB.

- A. TRUE
- B. FALSE

**Answer: A**

**Question: 23**

The receiver of an OTU board is an avalanche photodiode (APD). Which of the following is within the input optical power range?

- A. -30dBm
- B. -4dBm
- C. -15dBm
- D. 0dBm

**Answer: C**

**Question: 24**

When light passes through a passive optical component, the optical power decreases. This decrease is called an insertion loss.

- A. TRUE
- B. FALSE

**Answer: A**

**Question: 25**

The single wavelength incident optical power of a 100G system is lower than that of a 10G system. When 100G channels are expanded in a 10G system, the OA gain can be reduced to decrease the single-wavelength output optical power of the OA to meet the incident optical power requirements.

- A. TRUE

B. FALSE

**Answer: B**

### Question: 26

For hybrid transmission of 100G-and-beyond and 10G signals, it is recommended that the optical power of 100G and beyond signals be higher than that of 10G signals but not higher than the singlewavelength nominal value of an OA board.

- A. TRUE
- B. FALSE

**Answer: A**

### Question: 27

In an OA system, the lower threshold of the receive optical power of a line board (with an APD receiver laser) or the WDM side of an OTU board is the optical module's receiver sensitivity plus 5 dB.

- A. TRUE
- B. FALSE

**Answer: B**

### Question: 28

In the TCP/IP protocol stack, what layer does TCP/UDP reside on?

- A. Network layer
- B. Transport layer
- C. Data link layer
- D. Application layer

**Answer: B**

### Question: 29

Which of the following is not a difference between MPLS-TP OAM and MPLS OAM?

- A. Packet formats are different.

- 
- B. MPLS-TP OAM can save some label alarms, such as AIS, RD1, and UNEXPMEG.
  - C. The CC, AIS, LB, and LT functions are added to MPLS-TP OAM.
  - D. The interval for sending OAM packets is changed, and the values 3.3 ms and 10 ms are canceled.

**Answer: D**

### Question: 30

The DM function can be used to measure the delay and jitter of service packets.

- A. TRUE
- B. FALSE

**Answer: A**

### Question: 31

If the mask of an IP subnet is 27 bits, how many hosts does the subnet have?

- A. 32
- C. 30
- C. 14
- D. 16

**Answer: B**

### Question: 32

Which of the following statements about user side interfaces and network-side interfaces of E-Line services are true?

- A. User-side interfaces are NNIs, and network-side interfaces are UNIs.
- B. User-side interfaces are Layer 2 ports, and network-side interfaces are Layer 3 ports.
- C. User-side interfaces are UNIs, and network-side interfaces are NNIs.
- D. User-side Interfaces are Layer 3 ports, and network side Interfaces are Layer 7 ports.

**Answer: B, C**

### Question: 33

Which of the following statements about LSP is false?

- 
- A. An LSP is bidirectional.
  - B. LSP is short for label switched path.
  - C. Each LSP has an ID, which is called tunnel ID.
  - D. An LSP contains at least one ingress and one egress.

**Answer: A**

### Question: 34

In the electrical-layer structure of OTN, which of the following is the path layer sequence from the signal input on the WDM side to the signal output on the client side?

- A. Client -> OPUK -> ODUK -> OTUK
- B. Client -> ODUK -> OPUK -> OTUK
- C. OTUK -> OPUK -> ODUK -> Client
- D. OTUK -> ODUK -> OPUK -> Client

**Answer: D**

### Question: 35

The OTUK frame rate can be concluded based on OTU1, OTU2, and OTU3 frame rates. Which of the following is the correct formula for calculating the OTUK frame rate?

- A.  $OTUK \text{ frame rate} = 255 / (235 - k) \times STM-N \text{ framerate}$
- B.  $OTUK \text{ frame rate} = 255 / (239 - k) \times STM-N \text{ framerate}$
- C.  $OTUK \text{ frame rate} = 255 / (237 - k) \times STM-N \text{ framerate}$
- D.  $OTUK \text{ frame rate} = 255 / (236 - k) \times STM-N \text{ framerate}$

**Answer: B**

### Question: 36

What does ODUK\_PM\_BDI indicate?

- A. ODUK PM signal degradation
- B. ODUK PM section BIP-8 bit error threshold crossing
- C. ODUK PM backward defect indication
- D. ODUK PM open connection indication

**Answer: C**

### Question: 37

The nominal rate of OTU4 signals is 111,809,973.568 kbit/s. Generally, the line rate is regarded as 112 Gbit/s.

- 
- A. TRUE
  - B. FALSE

**Answer: A**

### Question: 38

Which of the following statements about OTN frame structure overheads is false?

- A. The FAS is not scrambled.
- B. The value of FAS changes dynamically with different signals.
- C. OTUK\_LOF is generated when FAS framing fails.
- D. The FAS is located at the start position of the OTN frame structure.

**Answer: B**

### Question: 39

Which of the following is not an advantage of OTN?

- A. Powerful out-of-band FEC is provided.
- B. 2 Mbit/s to 400 Gbit/s service interfaces can be provided.
- C. A maximum of five levels of nested or overlapped TCM connection monitoring are provided.
- D. The requirement for Tbit/s bandwidth per fiber using the WDM function is met.

**Answer: C**

### Question: 40

A common WDM service can be converted into an ODUK SNCP service. However, an ODUK SNCP service will be interrupted when it is converted into a common WDM service.

- A. TRUE
- B. FALSE

**Answer: A**

### Question: 41

Which of the following statements about port priorities in the LAG setting scenario are true?

- A. If the primary port is configured to preferentially carry services, the priority of this port must be higher than that of other ports.

- 
- B. Port priorities do not apply to the LAGs that do not run LACP, such as manual aggregation groups.
  - C. A port of a lower priority carries a service preferentially.
  - D. The priority of a port is higher if the value of "port Priority" is smaller.

**Answer: A, D**

### Question: 42

Which of the following statements about tributary SNCP is false?

- A. You need to set the SNCP subtype when configuring tributary SNCP.
- B. Tributary SNCP uses the dual fed and selective receiving function of electrical cross-connections to protect the services received by tributary boards on the client side.
- C. There are three possible trigger conditions: a board cannot be detected, SF occurs, and SD occurs.
- D. The cross connect granularity is GFor Any.

**Answer: D**

### Question: 43

Which of the following is not a trigger condition for the automatic switching of client 1+1 protection?

- A. When SD is disabled, the OTU board reports the ODUK\_PM\_DEG alarm.
- B. The OTU board cannot be detected.
- C. The OTU board reports the OTUK\_LOF alarm.
- D. The OLP or DCP board reports the R\_LOS alarm.

**Answer: A**

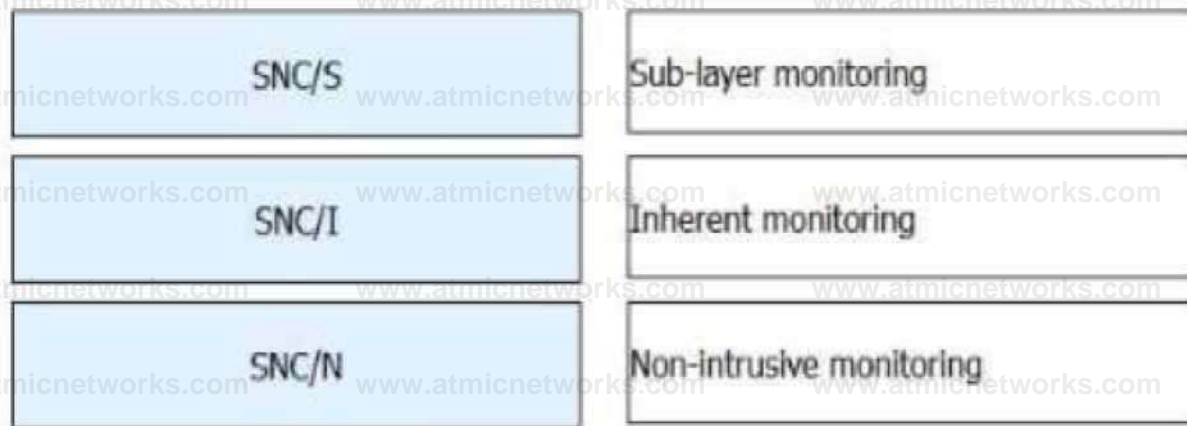
### Question: 44

DRAG DROP

Select the correct protection subtypes according to the descriptions.



**Answer:**



**Question: 45**

A service traverses two WDM rings, the two WDM rings are tangent, and the tangent NEs share an electrical subrack. To Implement segmented ODUk SNC, that is, the protection that can protect services from one fault on each ring, which of the following protection schemes must be configured?

- A. SNC/S or SNC/N
- B. SNC/I
- C. SNC/S
- D. SNC/N

**Answer: C**

**Question: 46**

Lower ground resistance indicates better grounding, that is, faster conduction of current to the ground.

- A. TRUE
- B. FALSE

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**Answer: A**

**Question: 47**

Which of the following are data dumping types on the NMS?

- A. Periodic dumping
- B. Automatic dumping
- C. Overflow dumping
- D. Manual dumping

**Answer: A, C, D**

**Question: 48**

Generally, which of the following operations will interrupt services on live networks?

- A. Cold reset on a service board
- B. Warm reset on a service board
- C. Hardware loopback
- D. Software loopback

**Answer: A, C, D**

**Question: 49**

In a scenario where non-convergence OTU boards process standard SDH signals, both site A and site B are WDM sites, and the R\_LOS alarm is detected on the client side of the OTU board at site A. After an alarm is processed on the WDM side of the OTU board, the REM\_5F alarm is reported on the client side of the downstream site B. Then, site B transmits the signals to its downstream client device and reports the R^LOS alarm to the client device.

- A. TRUE
- B. FALSE

**Answer: A**

**Question: 50**

The OTUK\_LOM alarm is generated when the out of multiframe (OOM) state lasts for 3 ms.

- A. TRUE
  - B. False
-

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**Answer: A**

**Question: 51**

When a GE service is encapsulated into an OTN frame structure and an SDH frame structure, the alarms reported by client-side devices are different.

- A. TRUE
- B. FALSE

**Answer: B**

**Question: 52**

Optical layer overhead alarm detection is implemented through optical layer overhead OOS. The R\_LOS and MUT\_LOS alarms are optical layer alarms and therefore are reported based on OOS detection.

- A. TRUE
- B. FAISE

**Answer: A**

**Question: 53**

OTUK\_LOM is an alarm indicating that the frame alignment signal (FAS) is abnormal. This alarm occurs when the frame alignment processing is out of frame (OOF) for three consecutive milliseconds.

- A. TRUE
- B. FALSE

**Answer: B**

**Question: 54**

When LCK is inserted at the local ODUk PM overhead, how does the downstream site process the insertion?

- A. Inserts the ODUk PM BDI alarm back to the upstream site.
- B. Continues to transparently transmit the ODUk\_PM\_LCK alarm to the downstream site.
- C. Inserts the ODUk\_PM\_LCK alarm back to the upstream site.
- D. Reports the ODUk\_PM\_LCK alarm.

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**Answer: A, D**

**Question: 55**

Optical power is an Important indicator of a WDM system and directly affects the transmission distance of signals. Therefore, the output optical power of a site must be as high as possible to ensure that signals can reach the peer site.

- A. TRUE
- B. FALSE

**Answer: B**

**Question: 56**

When the loopback method is used, the objects to be replaced can be optical fibers, boards, fiber adapters, optical attenuators, or power supply devices.

- A. TRUE
- C. FALSE

**Answer: A**

**Question: 57**

Which of the following external factors may cause abnormal optical power?

- A. A bent optical cable
- B. A contaminated connector
- C. An old optical fiber
- D. Crossed pairs on the ODF

**Answer: A, B, C**

**Question: 58**

Signal flow analysis is used to check the service flow of a faulty WDM system node by node to locate the fault.

- A. TRUE
  - B. FALSE
-

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**Answer: A**

**Question: 59**

Signal flow analysis is used to divide an entire network into several OMSs, identify the faulty section, determine whether the fault is occurring unidirectionally or bidirectionally, and then locate the fault along the signal flow direction based on fault information.

- A. TRUE
- B. FALSE

**Answer: B**

**Question: 60**

Which of the following causes a single channel to report the BEFFEC\_EXC alarm?

- A. Signals are severely attenuated during line transmission.
- B. The external environment is abnormal.
- C. An optical amplifier board is faulty.
- D. The input optical power of an OTU board is too high or too low.

**Answer: D**

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