STP

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**Networking :: Spanning Tree Protocol**

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**Exercise :: Spanning Tree Protocol - Spanning Tree Protocol**

* Spanning Tree Protocol - Spanning Tree Protocol

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| 1. | What is the purpose of Spanning Tree Protocol in a switched LAN? |
| |  |  | | --- | --- | | [**A.**](javascript:%20void%200;) | To provide a mechanism for network monitoring in switched environments | | [**B.**](javascript:%20void%200;) | To prevent routing loops in networks with redundant paths | | [**C.**](javascript:%20void%200;) | To prevent switching loops in networks with redundant switched paths | | [**D.**](javascript:%20void%200;) | To manage the VLAN database across multiple switches | | [**E.**](javascript:%20void%200;) | To create collision domains |   **Answer:** Option **C**  **Explanation:**  The Spanning Tree Protocol (STP) was designed to stop layer 2 loops. All Cisco switches have the STP on by default.  [View Answer](javascript:%20void%200;) [Discuss in Forum](https://www.indiabix.com/networking/spanning-tree-protocol/discussion-171) [Workspace](javascript:%20void%200;) [Report](javascript:%20void%200;) |

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| 2. | Which statement describes a spanning-tree network that has converged? |
| |  |  | | --- | --- | | [**A.**](javascript:%20void%200;) | All switch and bridge ports are in the forwarding state. | | [**B.**](javascript:%20void%200;) | All switch and bridge ports are assigned as either root or designated ports. | | [**C.**](javascript:%20void%200;) | All switch and bridge ports are in either the forwarding or blocking state. | | [**D.**](javascript:%20void%200;) | All switch and bridge ports are either blocking or looping. |   **Answer:** Option **C**  **Explanation:**  Convergence occurs when all ports on bridges and switches have transitioned to either the forwarding or blocking states. No data is forwarded until convergence is complete. Before data can be forwarded again, all devices must be updated.  [View Answer](javascript:%20void%200;) [Discuss in Forum](https://www.indiabix.com/networking/spanning-tree-protocol/discussion-170) [Workspace](javascript:%20void%200;) [Report](javascript:%20void%200;) |

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| 3. | What does a switch do when a frame is received on an interface and the destination hardware address is unknown or not in the filter table? |
| |  |  | | --- | --- | | [**A.**](javascript:%20void%200;) | Forwards the switch to the first available link | | [**B.**](javascript:%20void%200;) | Drops the frame | | [**C.**](javascript:%20void%200;) | Floods the network with the frame looking for the device | | [**D.**](javascript:%20void%200;) | Sends back a message to the originating station asking for a name resolution |   **Answer:** Option **C**  **Explanation:**  Switches flood all frames that have an unknown destination address. If a device answers the frame, the switch will update the MAC address table to reflect the location of the device.  [View Answer](javascript:%20void%200;) [Discuss in Forum](https://www.indiabix.com/networking/spanning-tree-protocol/discussion-175) [Workspace](javascript:%20void%200;) [Report](javascript:%20void%200;) |

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| 4. | In which circumstance are multiple copies of the same unicast frame likely to be transmitted in a switched LAN? |
| |  |  | | --- | --- | | [**A.**](javascript:%20void%200;) | During high-traffic periods | | [**B.**](javascript:%20void%200;) | After broken links are reestablished | | [**C.**](javascript:%20void%200;) | When upper-layer protocols require high reliability | | [**D.**](javascript:%20void%200;) | In an improperly implemented redundant topology |   **Answer:** Option **D**  **Explanation:**  If the Spanning Tree Protocol is not running on your switches and you connect them together with redundant links, you will have broadcast storms and multiple frame copies.  [View Answer](javascript:%20void%200;) [Discuss in Forum](https://www.indiabix.com/networking/spanning-tree-protocol/discussion-178) [Workspace](javascript:%20void%200;) [Report](javascript:%20void%200;) |

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| 5. | If you want to disable STP on a port connected to a server, which command would you use? |
| |  |  | | --- | --- | | [**A.**](javascript:%20void%200;) | *disable spanning-tree* | | [**B.**](javascript:%20void%200;) | *spanning-tree off* | | [**C.**](javascript:%20void%200;) | *spanning-tree security* | | [**D.**](javascript:%20void%200;) | *spanning-tree portfast* |   **Answer:** Option **D**  **Explanation:**  If you have a server or other devices connected into your switch that you're totally sure won't create a switching loop if STP is disabled, you can use something called *portfast* on these ports. Using it means the port won't spend the usual 50 seconds to come up while STP is converging.  [View Answer](javascript:%20void%200;) [Discuss in Forum](https://www.indiabix.com/networking/spanning-tree-protocol/discussion-179) [Workspace](javascript:%20void%200;) [Report](javascript:%20void%200;) |
| Which of the following statement is true? | |
| |  |  | | --- | --- | | [**A.**](javascript:%20void%200;) | A switch creates a single collision domain and a single broadcast domain. A router creates a single collision domain. | | [**B.**](javascript:%20void%200;) | A switch creates separate collision domains but one broadcast domain. A router provides a separate broadcast domain. | | [**C.**](javascript:%20void%200;) | A switch creates a single collision domain and separate broadcast domains. A router provides a separate broadcast domain as well. | | [**D.**](javascript:%20void%200;) | A switch creates separate collision domains and separate broadcast domains. A router provides separate collision domains. |   **Answer:** Option **B**  **Explanation:**  Switches break up collision domains, and routers break up broadcast domains.  [View Answer](javascript:%20void%200;) [Discuss in Forum](https://www.indiabix.com/networking/spanning-tree-protocol/discussion-174) [Workspace](javascript:%20void%200;) [Report](javascript:%20void%200;) | |

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| 7. | You have two switches connected together with two crossover cables for redundancy, and STP is disabled. Which of the following will happen between the switches? |
| |  |  | | --- | --- | | [**A.**](javascript:%20void%200;) | The routing tables on the switches will not update. | | [**B.**](javascript:%20void%200;) | The MAC forward/filter table will not update on the switch. | | [**C.**](javascript:%20void%200;) | Broadcast storms will occur on the switched network. | | [**D.**](javascript:%20void%200;) | The switches will automatically load-balance between the two links. |   **Answer:** Option **C**  **Explanation:**  If spanning tree is disabled on a switch and you have redundant links to another switch, broadcast storms will occur, among other possible problems.  [View Answer](javascript:%20void%200;) [Discuss in Forum](https://www.indiabix.com/networking/spanning-tree-protocol/discussion-182) [Workspace](javascript:%20void%200;) [Report](javascript:%20void%200;) |

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| 8. | Layer 2 switching provides which of the following?   1. Hardware-based bridging (ASIC) 2. Wire speed 3. Low latency 4. Low cost |
| |  |  | | --- | --- | | [**A.**](javascript:%20void%200;) | 1 and 3 | | [**B.**](javascript:%20void%200;) | 2 and 4 | | [**C.**](javascript:%20void%200;) | 1, 2 and 4 | | [**D.**](javascript:%20void%200;) | All of the above |   **Answer:** Option **D**  **Explanation:**  Switches, unlike bridges, are hardware based. Cisco says its switches are wire speed and provide low latency, and I guess they are low cost compared to their prices in the 1990s.  [View Answer](javascript:%20void%200;) [Discuss in Forum](https://www.indiabix.com/networking/spanning-tree-protocol/discussion-180) [Workspace](javascript:%20void%200;) [Report](javascript:%20void%200;) |

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| 9. | Your switch has a port status LED that is alternating between green and amber. What could this indicate? |
| |  |  | | --- | --- | | [**A.**](javascript:%20void%200;) | The port is experiencing errors. | | [**B.**](javascript:%20void%200;) | The port is shut down. | | [**C.**](javascript:%20void%200;) | The port is in STP blocking mode. | | [**D.**](javascript:%20void%200;) | Nothing; this is normal. |   **Answer:** Option **A**  **Explanation:**  When you connect to a switch port, at first the link lights are orange/amber, and then they turn green, indicating normal operation. If the link light is blinking, you have a problem.  [View Answer](javascript:%20void%200;) [Discuss in Forum](https://www.indiabix.com/networking/spanning-tree-protocol/discussion-173) [Workspace](javascript:%20void%200;) [Report](javascript:%20void%200;) |

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| 10. | You want to run the new 802.1w on your switches. Which of the following would enable this protocol? |
| |  |  | | --- | --- | | [**A.**](javascript:%20void%200;) | Switch(config)# *spanning-tree mode rapid-pvst* | | [**B.**](javascript:%20void%200;) | Switch# *spanning-tree mode rapid-pvst* | | [**C.**](javascript:%20void%200;) | Switch(config)# *spanning-tree mode 802.1w* | | [**D.**](javascript:%20void%200;) | Switch# *spanning-tree mode 802.1w* |   **Answer:** Option **A**  **Explanation:**  802.1w is the also called Rapid Spanning Tree Protocol. It is not enabled by default on Cisco switches, but it is a better STP to run since it has all the fixes that the Cisco extensions provide with 802.1d. |
| Which of the following is a layer 2 protocol used to maintain a loop-free network? | |
| |  |  | | --- | --- | | [**A.**](javascript:%20void%200;) | VTP | | [**B.**](javascript:%20void%200;) | STP | | [**C.**](javascript:%20void%200;) | RIP | | [**D.**](javascript:%20void%200;) | CDP |   **Answer:** Option **B**  **Explanation:**  The Spanning Tree Protocol is used to stop switching loops in a switched network with redundant paths.  [View Answer](javascript:%20void%200;) [Discuss in Forum](https://www.indiabix.com/networking/spanning-tree-protocol/discussion-167) [Workspace](javascript:%20void%200;) [Report](javascript:%20void%200;) | |

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| 12. | You need to allow one host to be permitted to attach dynamically to each switch interface. Which two commands must you configure on your catalyst switch to meet this policy?   1. Switch(config-if)# *ip access-group 10* 2. Switch(config-if)# *switchport port-security maximum 1* 3. Switch(config)# *access-list 10 permit ip host 1* 4. Switch(config-if)# *switchport port-security violation shutdown* 5. Switch(config)# *mac-address-table secure* |
| |  |  | | --- | --- | | [**A.**](javascript:%20void%200;) | 1 and 3 | | [**B.**](javascript:%20void%200;) | 2 and 4 | | [**C.**](javascript:%20void%200;) | 2, 3 and 5 | | [**D.**](javascript:%20void%200;) | 4 and 5 |   **Answer:** Option **B**  **Explanation:**  The *switchport port-security* is an important command, and it's super easy with the CNA; however, from the CLI, you can set the maximum number of MAC addresses allowed into the port, and then set the penalty if this maximum has been passed.  [View Answer](javascript:%20void%200;) [Discuss in Forum](https://www.indiabix.com/networking/spanning-tree-protocol/discussion-181) [Workspace](javascript:%20void%200;) [Report](javascript:%20void%200;) |

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| 13. | What command will display the forward/filter table? |
| |  |  | | --- | --- | | [**A.**](javascript:%20void%200;) | *show mac filter* | | [**B.**](javascript:%20void%200;) | *show run* | | [**C.**](javascript:%20void%200;) | *show mac address-table* | | [**D.**](javascript:%20void%200;) | *show mac filter-table* |   **Answer:** Option **C**  **Explanation:**  The command *show mac address-table* displays the forward/filter table on the switch.  [View Answer](javascript:%20void%200;) [Discuss in Forum](https://www.indiabix.com/networking/spanning-tree-protocol/discussion-168) [Workspace](javascript:%20void%200;) [Report](javascript:%20void%200;) |

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| 14. | If a switch receives a frame and the source MAC address is not in the MAC address table but the destination address is, what will the switch do with the frame? |
| |  |  | | --- | --- | | [**A.**](javascript:%20void%200;) | Discard it and send an error message back to the originating host | | [**B.**](javascript:%20void%200;) | Flood the network with the frame | | [**C.**](javascript:%20void%200;) | Add the source address and port to the MAC address table and forward the frame out the destination port | | [**D.**](javascript:%20void%200;) | Add the destination to the MAC address table and then forward the frame |   **Answer:** Option **C**  **Explanation:**  Since the source MAC address is not in the MAC address table, the switch will add the source address and the port it is connected to into the MAC address table and then forward the frame to the outgoing port.  [View Answer](javascript:%20void%200;) [Discuss in Forum](https://www.indiabix.com/networking/spanning-tree-protocol/discussion-176) [Workspace](javascript:%20void%200;) [Report](javascript:%20void%200;) |

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| 15. | What is the result of segmenting a network with a bridge (switch)?   1. It increases the number of collision domains. 2. It decreases the number of collision domains. 3. It increases the number of broadcast domains. 4. It decreases the number of broadcast domains. 5. It makes smaller collision domains. 6. It makes larger collision domains. |
| |  |  | | --- | --- | | [**A.**](javascript:%20void%200;) | 1 and 5 | | [**B.**](javascript:%20void%200;) | 2, 3 and 5 | | [**C.**](javascript:%20void%200;) | 3, 4 and 6 | | [**D.**](javascript:%20void%200;) | 1, 3 and 6 |   **Answer:** Option **A**  **Explanation:**  Bridges break up collision domains, which would increase the number of collision domains in a network and also make smaller collision domains.  [View Answer](javascript:%20void%200;) [Discuss in Forum](https://www.indiabix.com/networking/spanning-tree-protocol/discussion-169) [Workspace](javascript:%20void%200;) [Report](javascript:%20void%200;) |

What does PoP stand for?

Correct Answer

**Answer -**  B) PoP stands for Post Office Protocol

2.

What is the port number of PoP?

Wrong Answer

**Answer -**  C) The ports number of PoP is 110

3.

What is the number of layers in the OSI model?

Correct Answer

**Answer -**  C) OSI model consists of 7 layers.

4.

The full form of OSI is?

Correct Answer

**Answer -**  D) OSI stands for Open system interconnection.

5.

Identify the layer which provides service to the user.

Correct Answer

**Answer -**  B) Application layer provides service to the user.

6.

What is a HUB?

Correct Answer

**Answer -** C) A HUB is a network device

7.

What does a set of rules define?

Correct Answer

**Answer -**  Protocol defines a set of rules.

8.

Identify among the following which is mainly used to host web site.

Wrong Answer

**Answer -**  B) Web server is mainly used to host web site.

9.

Identify the full form of HTTP?

Correct Answer

**Answer -**  A) HTTPS stands for HyperText Transfer Protocol

10.

Identify the protocol primarily used for browsing data.

Correct Answer

**Answer -**  D) HTTP is used for browsing data.

11.

Identify the total versions of IP.

Correct Answer

**Answer -**  B) IP has 2 versions, IPV4 and IPV6.

12.

Identify the first network which was based on TCP/IP protocol.

Correct Answer

**Answer -**  A) ARPANET was the first network that was based on TCP/IP protocol.

13.

Choose among the following, which is the most common internet protocol.

Correct Answer

**Answer -**  D) SMTP is the most commonly used internet protocol.

14.

What does TCP/IP stand for?

Correct Answer

**Answer -**  B) TCP/IP stands for Transmission control protocol/Internet protocol.

15.

Which of the following layer isn’t present in the TCP/IP model but is included in the OSI model?

Correct Answer

**Answer -** B) The TCP/IP model does not contain a session layer.

16.

What is the collection of the hyperlinked document on the internet known as?

Correct Answer

**Answer -**  The collection of the hyperlinked document on the internet known as WWW.

17.

What is the location of a resource on the internet given by?

Wrong Answer

**Answer -** D) The location of a resource on the internet is given by URL

18.

Identify the incorrect network topology,

Wrong Answer

**Answer -**  C) P2P is not network topology.

19.

Choose the port number of FTP.

Wrong Answer

**Answer -**  B) The port number of FTP is 21.

20.

What is the length of the IPv4 address?

Wrong Answer

**Answer -**  C) The length of the IPv4 address is 32 bits.

21.

What is the length of the IPv6 address?

Wrong Answer

**Answer -**  D) The length of the IPv6 address is 128 bits.

22.

What is the term used when the main server sends mail to another mail server?

Wrong Answer

**Answer -**  B) SMTP is the term used when the main server sends mail to another mail server.

23.

What is the port number of SMTP?

Wrong Answer

**Answer -**  C) The port number of SMTP is 25.

24.

What does MIME stand for?

Wrong Answer

**Answer -**  D)  MIME stands for Multipurpose Internet Mail Extension.

25.

What does port number 143 refer to?

Wrong Answer

**Answer -**  C) Port number 143 refers to IMAP.

26.

Identify among the following the network device used to connect two dis-similar types of networks.

Wrong Answer

**Answer -**  D) Gateway is used to connect two dis-similar types of networks.

27.

Identify the device used to boost up a weak signal.

Wrong Answer

**Answer -**  B) Repeater is used to boost up a weak signal.

28.

What does MAC stand for?

Wrong Answer

**Answer -**  A) MAC stands for Media Access Control.

29.

What is the length of the MAC address?

Wrong Answer

**Answer -** D) Length of MAC address is 48 bits.

30.

Which of the following is used to allocate and manage resources for a network?

Wrong Answer

**Answer -**  B) Server is used to allocate and manage resources for a network.

31.

The arrangement where all data pass through a central computer is known as

Wrong Answer

**Answer -**  C) The arrangement where all data pass through a central computer is known as Star topology.

32.

What of the following device is used in the network layer?

Wrong Answer

**Answer -** C) Router is used in the network layer.

33.

Identify if the following statement is True or False: Network Interface Card(NIC) is an I/O device.

Wrong Answer

**Answer -** A) NIC is an I/O device.

34.

What is required to use a Simple Network Management System?

Wrong Answer

**Answer -** C) Rules are required to use a Simple Network Management System.

35.

Identify the major difference between SNMPv3 and SNMPv2.

Wrong Answer

**Answer -** D) The major difference between SNMPv3 and SNMPv2 is Enhanced security.

36.

Identify the network which extends a private network across a public network.

Wrong Answer

**Answer -** B) VPN extends a private network across a public network.

37.

Identify the layer which is responsible for data translating.

Wrong Answer

**Answer -** C) Presentation layer is used for data translating.

38.

Identify the layer which determines the interface of the system with the user.

Wrong Answer

**Answer -** D) Application layer is used to determine the interface of the system with the user.

39.

Which of the following topology arrangements is a point-to-point line configuration?

Wrong Answer

**Answer -** D) All of the above consists of a point-to-point line configuration.

40.

Identify the device which links two homogeneous packed broadcast local networks.

Wrong Answer

**Answer -** C) Bridge is used to link two homogeneous packed broadcast local networks.

41.

Why are parity bits used?

Wrong Answer

**Answer -** B) Parity bits are used to detect the error.

42.

Identify among the following which belongs to class A.

Wrong Answer

**Answer -** A)121.12.12.248 belongs to class A as the first octet value in the address lies between [0, 127].

43.

What does LAN stand for?

Wrong Answer

**Answer -** B) LAN stands for Local Area Network.

44.

Who keeps the private key in asymmetric key cryptography?

Wrong Answer

**Answer -** B) Receiver keeps the private key in asymmetric key cryptography.

45.

Calculate the maximum efficiency of pure ALOHA at G = 0.5?

Wrong Answer

**Answer -** D) The maximum efficiency of pure ALOHA is given by G \* e^(-2G)  
                  Here G = 0.5  
                  So, 0.5 \* e^(-2 \* 0.5) = 0.5 \* e = 18.4%

46.

Identify the switching method in which the message is divided into small packets.

Wrong Answer

**Answer -** B) In packet switching message is divided into small packets.

47.

What is a proxy server also known as?

Wrong Answer

**Answer -** A) Proxy server is also known as Application-level gateway.

48.

Identify among the following servers which allow LAN users to share data.

Wrong Answer

**Answer -** D) File server allows LAN users to share data.

49.

Choose the correct formula for the total vulnerable time value of pure ALOHA.

Wrong Answer

**Answer -** C) The total vulnerable time value of pure ALOHA is 2\*Tfr.

50.

Choose among the following which is a bit-oriented protocol.

Wrong Answer

**Answer -** B) HDLC or High-level link control is a bit-oriented protocol that is used to transmit info from one network to another.