

7 EASY (10 Questions)

Q1. Layer 2 switching primarily uses which address?

- A. IP address
- B. MAC address
- C. Port number
- D. VLAN ID

Q2. Which device operates at Layer 2?

- A. Router
- B. Switch
- C. Hub
- D. Gateway

Q3. STP is used to:

- A. Increase bandwidth
- B. Prevent routing loops
- C. Prevent switching loops
- D. Encrypt traffic

Q4. Which protocol standard defines STP?

- A. IEEE 802.1Q
- B. IEEE 802.3
- C. IEEE 802.1D
- D. IEEE 802.11

Q5. Which switch port state forwards traffic?

- A. Blocking
- B. Listening
- C. Learning
- D. Forwarding

Q6. Which type of switching method reads entire frame before forwarding?

- A. Cut-through
- B. Fragment-free
- C. Store-and-forward
- D. Fast-forward

Q7. Which STP element is elected first?

- A. Root port
- B. Designated port
- C. Root bridge
- D. Blocked port

Q8. Which address is used by switches to build CAM tables?

- A. IP address
- B. MAC address
- C. VLAN ID
- D. Subnet mask

Q9. Which STP state learns MAC addresses?

- A. Blocking
- B. Listening
- C. Learning
- D. Disabled

Q10. Which switch feature logically segments networks?

- A. STP
- B. VLAN
- C. Trunking
- D. Port security

☐ **MEDIUM (15 Questions)**

Q11. What causes a switching loop?

- A. Incorrect IP addressing
- B. Redundant Layer 2 links
- C. Routing misconfiguration
- D. VLAN mismatch

Q12. Which STP port has the lowest path cost to the root?

- A. Root port
- B. Designated port
- C. Blocked port
- D. Alternate port

Q13. What is the default STP bridge priority?

- A. 0
- B. 32768
- C. 4096
- D. 65535

Q14. Which STP timer determines how long a port stays in listening state?

- A. Hello time
- B. Forward delay
- C. Max age
- D. Aging time

Q15. Which switching method provides error checking?

- A. Cut-through
- B. Fragment-free
- C. Store-and-forward
- D. Fast switching

Q16. Which STP state prevents loops but allows BPDUs?

- A. Disabled
- B. Blocking
- C. Learning
- D. Forwarding

Q17. Which protocol improves STP convergence?

- A. STP
- B. RSTP
- C. VTP
- D. DTP

Q18. Which STP variant supports per-VLAN spanning trees?

- A. STP
- B. RSTP
- C. PVST+
- D. MSTP

Q19. Which port is responsible for forwarding frames away from the root?

- A. Root port
- B. Designated port
- C. Blocked port
- D. Alternate port

Q20. Which value determines STP root bridge election first?

- A. MAC address
- B. Path cost
- C. Bridge ID
- D. Port ID

Q21. Which switching technique offers lowest latency?

- A. Store-and-forward
- B. Fragment-free
- C. Cut-through
- D. Adaptive switching

Q22. Which STP feature protects against BPDU spoofing?

- A. PortFast
- B. BPDU Guard
- C. Root Guard
- D. Loop Guard

Q23. Which STP feature prevents a switch from becoming root?

- A. BPDU Guard
- B. PortFast
- C. Root Guard
- D. Loop Guard

Q24. Which STP feature detects unidirectional link failures?

- A. BPDU Guard
- B. Loop Guard
- C. Root Guard
- D. PortFast

Q25. Which STP timer defines BPDU transmission interval?

- A. Hello
 - B. Max age
 - C. Forward delay
 - D. Aging
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HARD (15 Questions)

Q26. Which STP bridge ID component has highest priority in election?

- A. MAC address
- B. VLAN ID
- C. Bridge priority
- D. Port cost

Q27. Which STP protocol reduces convergence to seconds?

- A. STP
- B. PVST+
- C. RSTP
- D. MSTP

Q28. Which STP mode groups VLANs into instances?

- A. STP
- B. PVST+
- C. RSTP
- D. MSTP

Q29. What happens if STP is disabled in a redundant topology?

- A. Faster convergence
- B. No broadcast traffic
- C. Broadcast storms
- D. Better load balancing

Q30. Which STP port role is neither root nor designated?

- A. Root
- B. Designated
- C. Blocking
- D. Alternate

Q31. Which STP feature immediately places a port into forwarding state?

- A. Root Guard
- B. BPDU Guard
- C. PortFast
- D. Loop Guard

Q32. Which condition triggers BPDU Guard?

- A. Receiving BPDU on PortFast port
- B. Root bridge failure
- C. Loop detection
- D. Link failure

Q33. Which STP variant supports multiple spanning tree instances?

- A. STP
- B. PVST+
- C. RSTP
- D. MSTP

Q34. Which STP port cost is lowest?

- A. 100
- B. 19
- C. 4
- D. 1

Q35. Which switching decision occurs after frame reception?

- A. Cut-through
- B. Store-and-forward
- C. Fragment-free
- D. Fast switching

Q36. Which STP role is used as a backup path to root?

- A. Root
- B. Designated
- C. Alternate
- D. Disabled

Q37. Which STP enhancement prevents accidental topology changes?

- A. BPDU Guard
- B. Root Guard
- C. PortFast
- D. Loop Guard

Q38. Which protocol ensures loop-free Layer 2 topology?

- A. VTP
- B. DTP
- C. STP
- D. ARP

Q39. Which STP field identifies the root bridge?

- A. Path cost
- B. Bridge ID
- C. Root ID
- D. Port ID

Q40. Which statement best describes Layer 2 switching?

- A. Uses IP routing
- B. Forwards frames based on MAC addresses
- C. Uses routing tables
- D. Operates at Layer 3