▢ EASY (10 Questions)

Q1. SDN primarily separates which two planes?

A. Data and transport
B. Control and data
C. Network and application
D. Physical and logical

Q2. Which component makes centralized control decisions in SDN?

A. Switch
B. Router
C. Controller
D. Firewall

Q3. Which protocol is commonly used between SDN controller and switches?

A. SNMP
B. NETCONF
C. OpenFlow
D. RIP

Q4. SDN improves network management by making it:

A. Hardware dependent
B. Manually controlled
C. Programmable
D. Decentralized

Q5. Which plane handles packet forwarding?

A. Control plane
B. Management plane
C. Application plane
D. Data plane

Q6. Which SDN component hosts network applications?

A. Data plane
B. Control plane
C. Application plane
D. Forwarding plane

Q7. Which technology is closely associated with SDN?

A. Frame Relay
B. Token Ring
C. Network virtualization
D. ARP

Q8. Which SDN concept enables dynamic traffic control?

A. Static routing
B. Centralized policies
C. VLAN tagging
D. MAC learning

Q9. Which SDN benefit reduces vendor lock-in?

A. Proprietary APIs
B. Open standards
C. Closed controllers
D. ASIC dependency

Q10. Which environment benefits most from SDN?

A. Small home networks
B. Static LANs
C. Large data centers
D. Isolated networks

☐ MEDIUM (15 Questions)

Q11. Which SDN layer communicates with the infrastructure layer?

A. Application
B. Control
C. Management
D. Policy

Q12. Which interface connects SDN controller to applications?

A. Southbound API
B. Northbound API
C. East-West API
D. CLI

Q13. Which SDN feature enables scalability?

A. Static forwarding
B. Centralized control logic
C. Distributed controllers
D. Manual configuration

Q14. Which SDN reliability technique prevents single point of failure?

A. Centralized controller
B. Controller clustering
C. VLAN segmentation
D. Trunking

Q15. Which SDN challenge relates to rule explosion?

A. Security
B. Scalability
C. Performance
D. Reliability

Q16. Which SDN consistency model ensures all controllers see same state?

A. Eventual consistency
B. Strong consistency
C. Weak consistency
D. Partial consistency

Q17. Which SDN approach supports global network view?

A. Traditional networking
B. Distributed routing only
C. Centralized control
D. Static switching

Q18. Which SDN use case benefits traffic engineering?

A. DNS
B. Load balancing
C. File sharing
D. Email

Q19. Which SDN issue affects real-time responsiveness?

A. Latency between controller and switch
B. MAC learning
C. VLAN creation
D. DHCP delay

Q20. Which SDN component programs forwarding rules?

A. Switch
B. Controller
C. Application
D. Hypervisor

Q21. Which protocol supports configuration management in SDN?

A. ARP
B. ICMP
C. NETCONF
D. FTP

Q22. Which SDN architecture supports multi-vendor devices?

A. Proprietary
B. Open SDN
C. Legacy
D. Closed

Q23. Which SDN plane implements QoS policies?

A. Data plane
B. Control plane
C. Application plane
D. Management plane

Q24. Which SDN challenge involves synchronization among controllers?

A. Scalability
B. Reliability
C. Consistency
D. Performance

Q25. Which SDN advantage simplifies network automation?

A. Manual scripting
B. Programmable APIs
C. Static configs
D. VLAN-based design

🌑 HARD (15 Questions)

Q26. Which SDN scalability method distributes load across controllers?

A. Central controller
B. Controller clustering
C. Single instance controller
D. VLAN partitioning

Q27. Which SDN reliability model uses active-active controllers?

A. Standalone
B. Active-standby
C. Active-active
D. Cold backup

Q28. Which SDN consistency trade-off favors availability?

A. Strong consistency
B. Eventual consistency
C. Strict consistency
D. Synchronous updates

Q29. Which SDN challenge affects flow table size in switches?

A. Reliability
B. Security
C. Scalability
D. Availability

Q30. Which SDN security concern targets the controller?

A. MAC flooding
B. Controller DoS
C. ARP poisoning
D. VLAN hopping

Q31. Which SDN deployment model separates physical and logical networks?

A. Traditional LAN
B. Network virtualization
C. Static routing
D. Token Ring

Q32. Which SDN concept supports policy-based networking?

A. MAC learning
B. Flow-based forwarding
C. Control plane abstraction
D. Static VLANs

Q33. Which SDN interface is responsible for controller-to-controller communication?

A. Northbound
B. Southbound
C. East-West
D. CLI

Q34. Which SDN metric is critical for real-time applications?

A. Throughput
B. Latency
C. MTU
D. Hop count

Q35. Which SDN benefit improves operational efficiency?

A. Manual intervention
B. Centralized automation
C. Proprietary hardware
D. Static rules

Q36. Which SDN architecture risk involves controller compromise?

A. Data plane failure
B. Single point of control
C. VLAN misconfiguration
D. Broadcast storm

Q37. Which SDN feature allows quick network reconfiguration?

A. Manual CLI
B. Programmability
C. Static routing
D. MAC tables

Q38. Which SDN approach supports cloud elasticity?

A. Fixed topology
B. Static VLANs
C. Dynamic control and orchestration
D. Manual provisioning

Q39. Which SDN challenge impacts consistency and availability trade-offs?

A. CAP theorem
B. TCP congestion
C. OSI model
D. VLAN design

Q40. Which statement best describes SDN?

A. Hardware-centric networking
B. Decentralized control only
C. Software-based centralized network control
D. Static network configuration