❓ EASY (10 Questions)

Q1. OpenFlow is primarily used for:

A. Network cabling
B. SDN controller–switch communication
C. IP address assignment
D. Wireless encryption

Q2. OpenFlow separates which network functions?

A. Routing and switching
B. Control plane and data plane
C. Physical and virtual networks
D. LAN and WAN

Q3. Which component makes forwarding decisions in SDN?

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

Q4. OpenFlow operates mainly at which OSI layer?

A. Layer 1
B. Layer 2
C. Layer 3
D. Between Layer 2 and 4 (control interface)

Q5. Which entity installs flow rules in switches?

A. Switch CPU
B. Network application
C. SDN controller
D. NIC

Q6. OpenDaylight is:

A. A routing protocol
B. A proprietary switch OS
C. An open-source SDN controller
D. A firewall appliance

Which protocol version introduced multiple flow tables?

A. OpenFlow 1.0
B. OpenFlow 1.1
C. OpenFlow 1.2
D. OpenFlow 1.3

Q8. Which plane is responsible for packet forwarding?

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

Q9. Which language is OpenDaylight primarily written in?

A. C
B. Python
C. Java
D. Go

Q10. Which OpenFlow message is used to add or modify flows?

A. Packet-In
B. Packet-Out
C. Flow-Mod
D. Features-Request

☐ MEDIUM (15 Questions)

Q11. Which OpenFlow table contains match–action rules?

A. Routing table
B. Flow table
C. ARP table
D. CAM table

Q12. Which OpenFlow action forwards packets to controller?

A. DROP
B. FLOOD
C. OUTPUT:CONTROLLER
D. NORMAL

Q13. Which OpenFlow message is sent by a switch when no matching flow exists?

A. Flow-Mod
B. Packet-Out
C. Packet-In
D. Echo-Request

Q14. Which OpenFlow field is used to match traffic?

A. MAC, IP, TCP/UDP headers
B. Only MAC address
C. Only IP address
D. VLAN ID only

Q15. Which OpenDaylight layer exposes APIs to applications?

A. Southbound layer
B. Control layer
C. Northbound layer
D. Infrastructure layer

Q16. Which southbound protocol is most commonly used by OpenDaylight?

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

Q17. Which OpenFlow feature enables QoS and traffic shaping?

A. Packet-In
B. Flow priorities and meters
C. Flooding
D. MAC learning

Q18. Which OpenFlow message checks controller–switch liveness?

A. Packet-In
B. Flow-Mod
C. Echo-Request/Reply
D. Features-Reply

Q19. Which OpenDaylight component handles service abstraction?

A. MD-SAL
B. OVSDB
C. OpenFlow plugin
D. Karaf

Q20. Which plane decides *how* packets should be forwarded?

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

Q21. Which OpenFlow port action sends traffic out a specific port?

A. NORMAL
B. FLOOD
C. DROP
D. OUTPUT

Q22. Which OpenDaylight architecture feature supports modularity?

A. Monolithic kernel
B. Plugin-based OSGi framework
C. Fixed routing engine
D. Hardware dependency

Q23. Which OpenFlow concept allows chaining multiple tables?

A. Single-table pipeline
B. Multi-table pipeline
C. Static pipeline
D. Flooding

Q24. Which OpenDaylight service stores network topology?

A. MD-SAL datastore
B. Flow table
C. CAM table
D. ARP cache

Q25. Which OpenFlow component defines rule matching precedence?

A. Cookie
B. Timeout
C. Priority
D. Meter

⬤ HARD (15 Questions)

Q26. Which OpenFlow table-miss action sends packets to controller?

A. DROP
B. NORMAL
C. Packet-In
D. CONTROLLER

Q27. Which OpenFlow timeout removes idle flows automatically?

A. Hard timeout
B. Idle timeout
C. Session timeout
D. Echo timeout

Q28. Which OpenDaylight feature enables controller clustering?

A. Karaf shell
B. MD-SAL with distributed datastore
C. OpenFlow only
D. CLI plugin

Q29. Which OpenFlow message advertises switch capabilities?

A. Features-Request/Reply
B. Echo
C. Packet-Out
D. Barrier

Q30. Which OpenFlow field uniquely identifies a flow entry?

A. Priority
B. Cookie
C. Match fields
D. Action list

Q31. Which OpenDaylight API type is used by applications?

A. Southbound API
B. Northbound REST API
C. Data plane API
D. Flow table API

Q32. Which OpenFlow security risk targets the control channel?

A. MAC flooding
B. Controller spoofing
C. VLAN hopping
D. STP loop

Q33. Which OpenFlow concept enables fine-grained traffic control?

A. Static routing
B. Flow-based forwarding
C. Broadcast forwarding
D. MAC learning

Q34. Which OpenDaylight component manages YANG models?

A. OpenFlow plugin
B. MD-SAL
C. OVSDB
D. Karaf

Q35. Which OpenFlow mechanism ensures rule installation order?

A. Priority
B. Barrier messages
C. Meter bands
D. Cookies

Q36. Which OpenDaylight benefit supports multi-vendor environments?

A. Proprietary southbound
B. Open APIs and standards
C. Fixed hardware
D. CLI-only management

Q37. Which OpenFlow deployment challenge affects latency?

A. Packet-In processing delay
B. VLAN tagging
C. MAC learning
D. ARP resolution

Q38. Which OpenFlow feature limits traffic rate?

A. Flooding
B. Meters
C. Priorities
D. Timeouts

Q39. Which OpenDaylight datastore ensures consistency across cluster?

A. Local cache
B. Distributed datastore
C. ARP table
D. Flow table

Q40. Which statement best describes OpenFlow?

A. Routing protocol
B. Switch operating system
C. SDN southbound protocol
D. Network application