

## CCNA 200-125

### 1. Network Fundamentals

ISO/OSI Reference Model and TCP/IP Model.

Describe the impact of infrastructure components in an enterprise network.  
(Firewalls, Access points, Wireless controllers)

Describe the effects of cloud resources on enterprise network architecture  
Basic virtual network infrastructure.

Network topologies. (Star, Mesh, Hybrid)

Configure, verify, and troubleshoot IPv4 addressing and subnetting.

Configure, verify, and troubleshoot IPv6 addressing.

### 2. LAN Switching Technologies

Switch working.

Troubleshoot interface and cable issues (collisions, errors, duplex, speed).

Spanning Tree Protocol.

PVST+ and RPVST+.

Configure, verify, and troubleshoot VLANs (normal/extended range).

Intervlan Routing.

Configure, verify, and troubleshoot interswitch connectivity (Trunk ports).

Configure, verify and troubleshoot STP related optional features (Portfast and BPDU Guard).

Configure, verify, and troubleshoot (Layer 2/Layer 3) EtherChannel. (Static, PAGP, LACP)

### 3. Routing Technologies

Basic Routing concepts.

Static Routing.

Dynamic Routing.

Rip, Rip v2 for Ipv4 and Ipv6.

Ospf for Ipv4 and Ipv6.

Eigrp for Ipv4 and Ipv6.

Default Routing.

Troubleshoot basic Layer 3 end-to-end connectivity issues.

Interpret the components of a routing table (Prefix, Network Mask , Next Hop, Administrative Distance, Metric, Gateway of last Resort)

#### **4. WAN Technologies**

Configure and verify PPP and MLPPP on WAN interfaces using local authentication.

Configure, verify, and troubleshoot GRE tunnel connectivity.

Describe WAN topology options.

Describe WAN access connectivity options.

Describe basic QoS concepts.

#### **5. Infrastructure Services**

Describe DNS lookup operation.

Configure and verify DHCP on a router.

Configure, verify, and troubleshoot basic HSRP.

Configure, verify, and troubleshoot inside source NAT.

#### **6. Infrastructure Security**

Configure, verify, and troubleshoot port security.

Describe common access layer threat mitigation techniques.

Configure, verify, and troubleshoot IPv4 and IPv6 access list for traffic filtering.

Configure, verify, and troubleshoot basic device hardening.

Describe device security using AAA with TACACS+ and RADIUS.

#### **7. Infrastructure Management**

Configure and verify device-monitoring protocols.(SNMP, SYSLOG)

Configure and verify device management.

Configure and verify initial device configuration.

Perform device maintenance.

Password recovery and configuration register.

Use Cisco IOS tools to troubleshoot and resolve problems.

Describe network programmability in enterprise network architecture.

