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## Syllabus - CCNA (CISCO) Training

### 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.

### 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), Interswitch 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)

### Routing Technologies

- Basic Routing concepts, Static Routing, Dynamic Routing, Default Routing.
- Routing Protocols
- Rip, Rip v2 for Ipv4 and Ipv6.
- Ospf for Ipv4 and Ipv6 and Eigrp for Ipv4 and Ipv6.
- 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)

## 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.

## 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.

## 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.

## 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.

## Training Fees / Duration (Rs. 2,500/- Onwards)

- Internship for BTech, MTech, MCA, BCA, Bsc, B.Com, M.Com, MBA Students
- Duration: 1 Week to 6 Months
- Internship Training on real projects
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- Online / Live / Direct Classes

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