TOC- Advance Routing and Switching

Duration : 04 Days (32 HRS)

1. Fundamentals of Switching
   a. MAC address learning
   b. Switching methods
   c. L2 vs L3 switches

2. Campus LAN connectivity
   a. Discussion about VLANs and trunks
   d. Configure and troubleshoot VLANs and Trunks

3. Building redundant switch topology
   a. Compare and contrast different STP modes
   b. Configure and troubleshoot STP, RSTP, MST
   c. STP enhancement features- Portfast, BPDU guard, Root guard

4. Implementing Port Aggregation
   a. Discussion about Etherchannel and its types
   b. Configure and troubleshoot Etherchannel- Static and dynamic- using LACP and PAGP

5. Port-security
   a. Discussion about Port-security
   b.
   c. Configure and troubleshoot Port-security

6. Implementing Network Redundancy
   a. Compare and contrast different high-availability protocols- HSRP, VRRP, GLBP
   b. Configure and troubleshoot High availability- HSRP, VRRP

7. Inter-VLAN Routing
   a. Discussion about L2 and L3 switch- Inter-VLAN routing methods
   b. Configure and verify- Router-on stick
   c. Configure and verify- SVI

8. Domain Name System
   a. Defining and understanding the working of DNS
   b. Securing DNS- best practices
   c. Configure and verify DNS and securing DNS

9. Fundamentals of Routing

a. Packet forwarding process
b. Classification of routing

10. Dynamic Routing
    a. Path selection process- based on administrative distance and Metrics
    b. Compare and contrast IGP and EGP protocols
    c. Classification of dynamic routing and their characteristics
11. EIGRP
    a. Discussion about EIGRP
    b. Configure and troubleshoot basic to advanced EIGRP
    c. Configure and verify EIGRPv6

12. OSPF
    a. Discussion about advanced OSPF
    b. Configure and troubleshoot basic to advanced OSPF
    c. Configure and verify OSPFv3

13. Route redistribution
    a. Concept of redistribution
    b. Configure and troubleshoot route distribution

14. BGP
    a. Discussion about BGP
    b. Configure and troubleshoot EBGP