CCNP(ADVANCE)
(300-410)

COURSE CURRICULUM

Layer 3 Technologies
- Troubleshoot administrative distance (all routing protocols)
- Troubleshoot route map for any routing protocol (attributes, tagging, filtering)
- Troubleshoot loop prevention mechanisms (filtering, tagging, split horizon, route poisoning)
- Troubleshoot redistribution between any routing protocols or routing sources
- Troubleshoot manual and auto-summarization with any routing protocol
- Configure and verify policy-based routing
- Configure and verify VRF-Lite
- Describe Bidirectional Forwarding Detection
- Troubleshoot EIGRP (classic and named mode)
  - Address families (IPv4, IPv6)
  - Neighbor relationship and authentication
  - Loop-free path selections (RD, FD, FC, successor, feasible successor, stuck in active)
  - Stubs
  - Load balancing (equal and unequal cost)
  - Metrics

Troubleshoot OSPF (v2/v3)
- Address families (IPv4, IPv6)
- Neighbor relationship and authentication
- Network types, area types, and router types
  - Point-to-point, multipoint, broadcast, nonbroadcast
  - Area type: backbone, normal, transit, stub, NSSA, totally stub
  - Internal router, backbone router, ABR, ASBR
  - Virtual link
- Path preference

Troubleshoot BGP (Internal and External)
- Address families (IPv4, IPv6)
- Neighbor relationship and authentication (next-hop, mulithop, 4-byte AS, private
- AS, route refresh, operation, states and timers)
- Path preference (attributes and best-path)
- Policies (inbound/outbound filtering, path manipulation)

VPN Technologies
- Describe MPLS operations (LSR, LDP, label switching, LSP)
- Configure and verify DMVPN (single hub)
  - GRE
  - NHRP
  - IPsec
  - Dynamic neighbor
  - Spoke-to-spoke

Infrastructure Security
- Troubleshoot device security using IOS AAA (TACACS+, RADIUS,)
- Troubleshoot router security features
  - IPv4 access control lists (standard, extended, time-based)
  - IPv6 traffic filter
  - Unicast reverse path forwarding (uRPF)

Troubleshoot control plane policing (Telnet, SSH, HTTP(S), SNMP, EIGRP, OSPF, BGP)

Describe IPv6 First Hop security features (RA guard, DHCP guard, binding table, source guard)

Infrastructure Services
- Troubleshoot device management
  - Console and VTY
  - Telnet, HTTP, HTTPS, SSH
  - (T)FTP

Troubleshoot network problems using logging (local, syslog, debugs, conditional debugs, timestamps)

Troubleshoot IPv4 and IPv6 DHCP (DHCP client, IOS DHCP server, DHCP relay, DHCP options)

Troubleshoot network performance issues using IP SLA (jitter, tracking objects, delay, connectivity)

Troubleshoot network problems using Cisco DNA Center assurance (connectivity, monitoring, de vice health, network health)

DUCAT
development | consultancy | training

E-mail: info@ducatindia.com
Visit us: www.ducatindia.com
www.facebook.com/ducateducation

NOIDA
A-43 & A-52, Sector-16,
Noida - 201301, (U.P.) INDIA
70-70-90-50-90
+91 99-9999-3213

GURGAON
1808/2, 2nd floor old DLF,
Near Honda Showroom,
Sec.-14, Gurgaon (Haryana)
70-70-90-50-90

GHAZIABAD
1, Anand Industrial Estate,
Near ITS College, Mohan Nagar,
Ghaziabad (U.P.)
70-70-90-50-90

PITAMPURA (DELHI)
Plot No. 366, 2nd Floor,
Kohat Enclave, Pitampura,
(Near- Kohat Metro Station)
Above Allahabad Bank,
New Delhi- 110034.
70-70-90-50-90

SOUTH EXTENSION (DELHI)
D-27,South Extension-1
New Delhi-110049
70-70-90-50-90
+91 98-1161-2707