

## 'CCNA'

### Course Contents:

- Types Of Networks - LAN, MAN ,WAN + Peer to Peer, Client-Server + Network Media & Hardware - Coaxial, UTP, STP, Connectivity
- Internet Protocol & Addressing, Describe Classless IP Addresses, ,Public & Private IP, Reserved IP Addresses
- Concept Of Subnet mask, Subnetting of Class A, B, C. VLSM, CIDR, Route Summarization
- Introduction To Router, Types- Modular & Fixed, CISCO Series, Model
- WIC-1T/2T , NM8S , 4S, Cards & Ports, Port IDs, Internal Components Of a Router & Switches
- Router boot sequence and internal config, backup, recovery and IOS upgrade
- Routing Table, Metric, Routing Loops, Types of Routing, Routing protocol code.
- Static & Default Static Routing
- Configuration of routing protocol RIP V2, EIGRP,OSPF and BGP
- TCP/IP Protocol Suit, Framing, CRC, Runts, Giants, Dropped packets, Broadcast & Collision Domain,L2 & L3 Broadcasts, Benefits Of VLAN, Vlan Configuration Modes & Functions
- VLAN,VLAN Access & Trunk Port, DTP, Encapsulation, VTP Modes
- Describe Function Of Switch, CAM Table, Switching Loops Issues, Explain STP, RSTP, Port states & roles
- Standard, Extended, & Named Access List , Explain Reflexive Access Control List
- NAT & NAT TYPES, Static NAT ,Dynamic NAT& PAT
- IPV4 VLSM and Summarization, Introduction to IPV6 & Features, Describe Limitations of IPV4,IPV6 address Types & Ranges, Describe Auto configuration of IPV6
- LLDP , CDP , Describe basic QoS concepts Device trust Prioritization (i) Voice (ii) Video(iii) Data,
- DHCP On Router, Configuring PPP Authentication-PAP,CHAP
- Metro Ethernet, Cellular 3G / 4G,MPLS,T1 / E1, ISDN, DSL, Cable, VPN,
- Describe the effects of cloud resources on enterprise network architecture
- Traffic path to internal and external cloud services, Describe WAN access connectivity options:
  - a, MPLS, b, Metro Ethernet, c Broadband PPPoE d, Internet VPN (DMVPN, site-to-site VPN, client VPN)
- Introduction to BGP , iBGP, eBGP, Configure and verify single-homed branch connectivity using eBGP IPv4 (limited to peering and route advertisement using Network command only)
- IPV4 VLSM and Summarization, Introduction to IPV6 & Features, Describe Limitations of IPV4,IPV6 address Types & Ranges, Describe Auto configuration of IPV6
- Troubleshoot network connectivity issues using ICMP echo-based IP SLA
- Troubleshoot basic Layer 3 end-to-end connectivity issues, Verify ACLs using the APIC-EM Path Trace ACL Analysis tool
- Metro Ethernet,Cellular 3G / 4G,MPLS,T1 / E1, ISDN, DSL, Cable,VPN,

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- a Traffic path to internal and external cloud services
- Describe WAN access connectivity options, a, MPLS, b, Metro Ethernet, c Broadband PPPoE, d, Internet VPN (DMVPN, site-to-site VPN, client VPN)

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