

CCNA Course Agenda

| Name : | | Reg No : | | |
|---------------------|------|--|--------------|--------------|
| Course : | | Faculty : | | |
| Start Date : | | End Date : | | |
| Mobile No : | | Email ID : | | |
| S.NO | Date | Content | Student sign | Faculty sign |
| 1 | | Addressing scheme of TCP/IP | | |
| | | IPv4 unicast addressing scheme | | |
| | | IPv4 multicast addressing scheme | | |
| 2 | | Subnetting | | |
| | | Design of subnetting and criteria | | |
| | | Variable length subnet mask design (VLSM) | | |
| 3 | | Routing Logic | | |
| | | Routing table, Routes, Specific Route, Network Route, Host Route, Default Route, Default Gateway, IP Forwarding Functionality by the Router, Static and Dynamic routing | | |
| 4 | | Understanding ICMP messages related to routing issues and troubleshooting | | |
| | | Request timed out | | |
| | | Destination host unreachable | | |
| | | TTL expired in transit | | |
| 5 | | Packet structures: Capture and analysis of the following packets | | |
| 6 | | ARP IP to HW Address resolution Duplicate address detection | | |
| 7 | | ICMP Echo request and Echo reply Destination host is unreachable Destination port is unreachable Destination is administratively prohibited TTL expired in transit | | |
| 8 | | UDP | | |
| 9 | | TCP TCP connection establishment TCP connection termination Sequence numbers Window size Forward acknowledgement TCP flags | | |
| 10 | | FTP Control session Data session 1. Active mode 2. Passive mode | | |
| 11 | | HTTP HTTP session establishment | | |
| 12 | | DNS DNS queries and replies DNS recursion DNS error messages | | |
| 13 | | DHCP DHCP messages : 1. Discover 2. Offer 3. Request 4. Ack DHCP relay agent | | |
| 14 | | NetBIOS NetBIOS name registration NetBIOS session service | | |
| 15 | | Traceroute Understanding the TTL concept | | |
| 16 | | Packets being forwarded by Routers | | |
| 17 | | IPv6 | | |

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| | | IPv6 - Addressing scheme | | |
| | | IPv6 - Neighbor discovery protocol | | |
| | | IPv6 unicast addressing scheme | | |
| | | IPv6 - Subnetting | | |
| | | Design of subnetting and criteria | | |
| | | Neighbor solicitation | | |
| | | Neighbor advertisement | | |
| | | Router solicitation | | |
| | | Router advertisement | | |
| | | Router redirect | | |
| 18 | | RIP (Routing Information Protocol) | | |
| | | RIP - Distance vector routing protocol | | |
| | | RIP timers - Update interval - Invalid timer – Hold down timer - Flush interval | | |
| | | Split horizon | | |
| | | Route poison and Poison reverse | | |
| | | Triggered updates | | |
| | | RIP metric and metric manipulation | | |
| | | Validating the update-source rule | | |
| | | Automatic summarization rule | | |
| | | RIP version 1 and version 2 | | |
| | | RIP unicast updates | | |
| 19 | | OSPF (Open Shortest Path First) | | |
| | | OSPF - Link state routing protocol | | |
| | | Configuration of OSPF | | |
| | | OSPF router-id selection | | |
| | | Importance of network command | | |
| | | Hello protocol and timers | | |
| | | OSPF neighbor states | | |
| | | Link state database of OSPF | | |
| | | OSPF behavior on a Point-to-Point network | | |
| | | OSPF behavior on a Broadcast multi access network | | |
| | | OSPF behavior on a Non-Broadcast multi access network | | |
| | | OSPF DR and BRD concepts on multi access networks | | |
| | | OSPF multiple areas and the importance of ABR | | |
| | | Configuration of a virtual link | | |
| | | OSPF metric calculation and manipulation of the routes by metric | | |
| 20 | | EIGRP (Enhanced Interior Gateway Routing Protocol) | | |
| | | EIGRP DUAL algorithm, Successor, Feasible successor, Advertised distance, Feasible distance, Feasibility condition, Loop avoidance | | |
| | | EIGRP neighbor table, topology table | | |
| | | EIGRP Reliable multicast | | |
| | | EIGRP metric calculation and modification of the routes by metric | | |
| | | EIGRP packets | | |
| | | Understanding EIGRP stuck-in-active condition | | |
| | | Limiting the query range | | |
| 21 | | IS-IS (Intermediate System to Intermediate System) | | |
| | | IS-IS Network entity title | | |
| | | Configuration of IS-IS on the relevant interfaces | | |
| | | IS-IS level-1 and Level-2 routes | | |
| 22 | | BGP (Border Gateway Protocol) | | |
| | | BGP autonomous systems | | |
| | | BGP router-id | | |
| | | External BGP peering | | |
| | | BGP route advertisement by network command | | |
| | | BGP route advertisement by redistribution | | |
| 23 | | Virtual Private Network (VPN) | | |
| 24 | | Cryptography basics : Key, Algorithm, Public and Private Keys, Confidentiality, Integrity, Accountability, Authentication, Digital Signatures, Digital Certificates, Certification Authority, Hash Functions | | |
| 25 | | IPSec : i. ESP and AH ii. Transport and tunnel mode iii. IKE | | |

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| | | Site to Site IPsec VPN | | |
| 26 | | DMVPN : i. Point-to-point GRE tunnels ii. Multipoint GRE tunnels iii. NHRP protocol iv. IPsec over GRE | | |
| 27 | | IPv6 tunneling Tunneling of IPv6 packets through a IPv4 network Configuration of PPPoE server Configuration of PPPoE client Virtual templates | | |
| 28 | | IP SLA (Service Level agreement) Configuration of IP SLA | | |
| 29 | | Frame Relay Configuration of a Frame relay switch Fully meshed topology Hub and Spoke topology Hub and Spoke topology with sub interfaces Behavior of RIP on Frame relay Hub and Spoke topology Behavior of EIGRP on Frame relay Hub and Spoke topology Behavior of OSPF on Frame relay Hub and Spoke topology | | |
| 30 | | NAT (Network Address Translation) Dynamic NAT Dynamic NAT with overload Static NAT NAT and Access-lists | | |
| 31 | | Access-Lists Standard access-lists Extended access-lists Time based ACL Named ACL IPv6 ACL | | |
| 32 | | Redistribution Redistribution between different routing protocols like RIP, EIGRP, OSPF, IS-IS and BGP Redistribution of “connected” and “static” routes Metric issues with redistribution | | |
| 33 | | Multicast Multicast addressing scheme Streaming with VLC IGMP messages PIM dense mode Multicast routing and multicast routing tables | | |
| 34 | | Switching VLANs and inter-VLAN routing Trunk ports Port aggregation VTP STP HSRP VRRP GLBP Switch security Configuration of Access-lists on a layer-3 switch Configuration of routing protocols on a layer-3 switch | | |

CCNA LABAROTARY MODULE:

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|---|--|----|---|----|---|
| 1 | Cabling a Network and Basic Router Configuration | 34 | Configure OSPF on a Non broadcast Network | 67 | Inter-VLAN Routing with an External Router |
| 2 | sv6 - Basic Configuration | 35 | Configure OSPF on Multiple Area | 68 | VLANs, VTP, and Inter-VLAN Routing Case Study |
| 3 | IPv6 – Address assignment methods | 36 | Configure OSPF and virtual Link | 69 | Hot Standby Router Protocol |
| 4 | IPv6 – Unicast Point to point | 37 | Configure OSPF and authentication | 70 | IP Service Level Agreements in a Campus Environment |

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| 5 | IPv6 – Unicast Point to Multipoint | 38 | Configure OSPF Summarization and Default Route | 71 | Securing Layer 2 Switches |
| 6 | IPv6 – Point to multi-access | 39 | Configure OSPF Route Filtering | 72 | Securing Spanning Tree Protocol |
| 7 | IPv6 – Transition Technique | 40 | OSPF Troubleshooting Lab | 73 | Securing VLANs with Private VLANs, RACLs, and VACLs |
| 8 | IPv6 – Manual Tunnels | 41 | IPv6- OSPF | 74 | Local SPAN and Remote SPAN |
| 9 | IPv6 – GRE Tunnels | 42 | IS-IS Configuration case study-1 | 75 | Preventing Spoofing Attacks |
| 10 | IPv6 – DHCPv6 | 43 | IS-IS Configuration case study-2 | 76 | DNS |
| 11 | Investigating the Routing Table Lookup Process | 44 | BGP – Basic Configuration | 77 | DHCP |
| 12 | Classful and Classless Routing Behavior | 45 | BGP – Confederation | 78 | NTP |
| 13 | Static Routing case study -1 | 46 | BGP - Peer Groups | 79 | HSRP |
| 14 | Static Routing case study -1 | 47 | BGP - Attributes | 80 | TACAS+ |
| 15 | IPv6- Static Routing | 48 | IPv6 – BGP | 81 | RADIUS |
| 16 | Basic RIPv1 Configuration | 49 | Point to Point Protocol / HDLC | 82 | Static NAT |
| 17 | Running RIPv1 on Classful Networks | 50 | PPP Authentication PAP / CHAP | 83 | Dynamic |
| 18 | RIP Network Type | 51 | MPLS | 84 | PAT |
| 19 | RIP Route Filtering | 52 | DMVPN | 85 | NTP |
| 20 | RIPv2 Basic Configuration Lab | 53 | Basic Frame-relay configuration | 86 | Standard Access Control List |
| 21 | RIPv2 Basic Configuration Lab | 54 | Frame-relay Multipoint | 87 | Extended Access Control List |
| 22 | RIPv2 Troubleshooting Lab | 55 | Frame-relay Multipoint Hub and Spoke topology | 88 | Time based Access Control List |
| 23 | IPv6 – RIPng | 56 | Frame-relay Multipoint sub interface & DLCI Mapping | 89 | Named Access Control List |
| 24 | Basic EIGRP Configuration Lab | 57 | Basic Switch Configuration | 90 | SNMP |
| 25 | EIGRP – Metric and Variance | 58 | Switch Startup and Initial Configuration. | 91 | SYSLOG |
| 26 | EIGRP – Metric Summarization | 59 | Troubleshooting Switch Media Issues. | 92 | IP SLA |
| 27 | EIGRP Query Control | 60 | Static VLANs, VLAN Trunking, and VTP Domains and Modes | 93 | Device maintenance |
| 28 | EIGRP Authentication | 61 | Configuring EtherChannel, | 94 | IOS Troubleshooting Tools |
| 29 | EIGRP Route Filtering | 62 | PAGP, LACP | 95 | IOS Backup / Installation |
| 30 | Named EIGRP | 63 | Spanning Tree Protocol (STP) Default Behavior | 96 | Password Recovery |
| 31 | EIGRP Troubleshooting Lab | 64 | Modifying Default Spanning Tree Behavior | 97 | File System Management |
| 32 | IPv6- EIGRP | 65 | Per-VLAN Spanning Tree Behavior | 98 | CEF- Cisco Express Forwarding |
| 33 | Basic OSPF Configuration Lab | 66 | Multiple Spanning Tree | 99 | Configure OSPF on a Multi access Network |
| 100 | NETWORKING PROGRAMMABILITY | | | | |

Note:

- **CCNA Course delivered based on LAB Oriented, we demonstrate our own Routers, Switches and Security Appliance with real time case study,**
- **No SIMULATION SOFTWARE LIKE PACKET TRACER AND GNS 3**
- **1 Year Free Lab Access**
- **Free Lab materials and Study Materials**
- **100 % Pass Guaranteed**
- **We guaranteed in First Attempt PASS GUARANTEE in online EXAM, if you Fail in first attempt we refund the whole course FEES.**

We look forward to hearing your ideas about ways that we might serve the students better.

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