



## **CCNA (Cisco Certified Network Associate)**

**Exam Code: 200-301 CCNA**

**Course Curriculum (Duration: 40 Hrs.)**

### **Chapter 1: Internetworking**

- a. Internetworking Basics
- b. Internetworking Models
- c. The OSI Reference Model
- d. Summary

### **Chapter 2: Review of Ethernet Networking and Data Encapsulation**

- a. Ethernet Networks in Review
- b. Ethernet Cabling Data Encapsulation
- c. The Cisco Three-Layer
- d. Hierarchical Model Summary

### **Chapter 3: Introduction to TCP/IP**

- a. Introducing TCP/IP
- b. TCP/IP and the DoD Model
- c. IP Addressing IPv4
- d. Address Types Summary

### **Chapter 4: Easy Subnetting**

- a. Subnetting Basics
- b. Summary

### **Chapter 5: Variable Length Subnet Masks (VLSMs), Summarization, and Troubleshooting TCP/IP**

- a. Variable Length Subnet Masks (VLSMs)
- b. Summarization
- c. Troubleshooting IP Addressing
- d. Summary

### **Chapter 6: Cisco's Internetworking Operating System (IOS)**

- a. The IOS User Interface
- b. Command-Line Interface (CLI)
- c. Router and Switch Administrative Configurations
- d. Router Interfaces
- e. Viewing, Saving, and Erasing Configurations
- f. Summary

### **Chapter 7: Managing a Cisco Internetwork**

- a. The Internal Components of a Cisco Router
- b. The Router Boot Sequence Managing Configuration Register
- c. Backing Up and Restoring the Cisco IOS
- d. Backing Up and Restoring the Cisco Configuration
- e. Using Cisco Discovery Protocol (CDP)
- f. Using Telnet
- g. Resolving Hostnames
- h. Checking Network Connectivity and Troubleshooting
- i. Summary

**Chapter 8: IP Routing**

- a. Routing Basics
- b. The IP Routing Process
- c. Configuring IP Routing in Our Network
- d. Dynamic Routing
- e. Distance-Vector Routing Protocols
- f. Routing Information Protocol (RIP)
- g. Verifying Your Configurations
- h. Summary

**Chapter 9: Enhanced IGRP (EIGRP) and Open Shortest Path First (OSPF)**

- a. EIGRP Features and Operation
- b. Using EIGRP to Support Large Networks
- c. Configuring EIGRP
- d. Load Balancing with EIGRP
- e. Verifying EIGRP
- f. Open Shortest Path First (OSPF)
- g. Basics Configuring OSPF
- h. Verifying OSPF Configuration
- i. OSPF DR and BDR Elections
- j. OSPF and Loopback Interfaces
- k. Troubleshooting OSPF
- l. Configuring EIGRP and OSPF Summary Routes
- m. Summary

**Chapter 10: Layer 2 Switching and Spanning Tree Protocol (STP)**

- a. Before Layer 2 Switching
- b. Switching Services Spanning Tree Protocol (STP)
- c. Configuring Catalyst Switches
- d. Summary

**Chapter 11: Virtual LANs (VLANs)**

- a. VLAN Basics
- b. VLAN Memberships
- c. Identifying VLANs
- d. VLAN Trunking Protocol (VTP)
- e. Routing between VLANs
- f. Configuring VLANs
- g. Configuring VTP
- h. Telephony: Configuring Voice VLANs
- i. Summary

**Chapter 12: Security**

- a. Perimeter, Firewall, and Internal Routers
- b. Introduction to Access Lists
- c. Standard Access Lists
- d. Extended Access Lists
- e. Turning Off and Configuring Network Services
- f. Monitoring Access Lists
- g. Summary

**Chapter 13: Network Address Translation (NAT)**

- a. When Do We Use NAT?
- b. Types of Network Address Translation
- c. NAT Names
- d. How NAT Works
- e. Testing and Troubleshooting NAT
- f. Summary

**Chapter 14: Cisco's Wireless Technologies**

- a. Introduction to Wireless Technology
- b. Basic Wireless Devices
- c. Wireless Regulations
- d. Wireless Topologies
- e. Wireless Security
- f. Summary

**Chapter 15: Internet Protocol Version 6 (IPv6)**

- a. Why Do We Need IPv6?
- b. The Benefits and Uses of IPv6
- c. IPv6 Addressing and Expressions
- d. How IPv6 Works in an Internetwork
- e. IPv6 Routing Protocols
- f. Migrating to IPv6
- g. Summary

**Chapter 16: Wide Area Networks**

- a. Introduction to Wide Area Networks
- b. Cable and DSL
- c. Cabling the Serial Wide Area
- d. Network High-Level Data-Link Control (HDLC)
- e. Protocol Point-to-Point Protocol (PPP)
- f. Frame Relay
- g. Virtual Private Networks
- h. Summary

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