Cisco Certified Network Professional Course

Course Duration: 40 Hours **Course code: CCNP**

1. Course Overview

The CCNP Enterprise course is designed to provide advanced knowledge and practical skills required to design, implement, manage, and troubleshoot enterprise networks. This program covers core technologies (ENCOR) and advanced routing & services (ENARSI), including routing, switching, security, automation, virtualization, and network assurance. It prepares learners for real-world enterprise environments and Cisco certification exams.

2. What you'll learn?

By the end of the course, you will be able to:

- Design and implement enterprise network architectures
- Configure advanced Layer 2 and Layer 3 technologies
- Implement OSPF, EIGRP, and BGP routing protocols
- Deploy VPN solutions (IPsec, GRE, DMVPN)
- Implement network security best practices
- Configure and manage wireless networks
- Use automation and programmability tools
- Monitor, troubleshoot, and optimize enterprise networks
- Implement high availability and redundancy solutions

3. Target Audience

This course is ideal for:

- Network Engineers and Administrators
- System Engineers
- Network Security Professionals
- IT Professionals aiming for CCNP certification

- Professionals working in enterprise networking environments

4. Pre-Requisites

Before taking this course, you should have:

- CCNA-level knowledge or equivalent experience
- Understanding of networking fundamentals (IP addressing, routing, switching)
- Basic experience with Cisco CLI
- Familiarity with network troubleshooting concepts

5. Course content

Module 1: Course Introduction

- Overview of CCNP Enterprise certification
- Course structure and roadmap
- Lab setup and tools
- Real-world use cases

Module 2: Enterprise Network Architecture

- Cisco enterprise architecture
- Two-tier, three-tier, and spine-leaf models
- SDN and intent-based networking
- Cloud networking fundamentals

Module 3: Switching Technologies

- VLANs and trunking
- Inter-VLAN routing
- Spanning Tree Protocol (STP, RSTP, MST)
- EtherChannel configuration
- Layer 2 troubleshooting

Module 4: Routing Technologies

- IP routing fundamentals
- Static and dynamic routing
- Routing table concepts
- Path selection process

Module 5: OSPF Implementation

- OSPF configuration and design
- Multi-area OSPF
- LSA types and operations
- OSPF optimization and troubleshooting

Module 6: EIGRP Implementation

- EIGRP concepts and named mode
- Metric calculation
- Route summarization
- EIGRP troubleshooting

Module 7: BGP Implementation

- BGP fundamentals (iBGP & eBGP)
- Path selection attributes
- Route filtering and policies
- BGP troubleshooting

Module 8: Advanced Routing & Redistribution

- Route redistribution concepts
- Loop prevention techniques
- Policy-based routing (PBR)
- Route filtering

Module 9: VPN Technologies

- VPN concepts and types
- GRE tunneling
- IPsec VPNs
- DMVPN implementation

Module 10: Infrastructure Security

- Device hardening
- AAA (Authentication, Authorization, Accounting)
- ACLs and security policies
- Control Plane Policing (CoPP)
- Layer 2 security features

Module 11: Wireless Networking

- Wireless fundamentals
- WLAN architectures
- Wireless controllers
- Wireless security

Module 12: Network Services

- DHCP and DNS
- NAT (Static, Dynamic, PAT)
- NTP, SNMP, Syslog
- QoS concepts and implementation

Module 13: Network Automation and Programmability

- Network automation fundamentals
- REST APIs and JSON
- Python for network automation
- Cisco DNA Center

- Configuration management tools

Module 14: Virtualization in Enterprise Networks

- VRF (Virtual Routing and Forwarding)
- Network virtualization concepts
- GRE, IPsec, and overlays
- Introduction to SD-WAN

Module 15: Network Assurance and Monitoring

- Monitoring tools and techniques
- NetFlow and telemetry
- Logging and alerting
- Performance optimization

Module 16: High Availability and Redundancy

- HSRP, VRRP, GLBP
- Redundant network design
- Fast convergence techniques
- Fault tolerance strategies

Module 17: Troubleshooting Enterprise Networks

- Troubleshooting methodology
- Layer-wise issue identification
- Debugging tools and commands
- Real-world troubleshooting scenarios

Module 18: Hands-on Labs & Real-World Projects

- Enterprise network design lab
- Routing & switching configuration labs
- VPN deployment labs

- Security implementation labs
- Automation use cases

Phone: +91-999-911-1686 **Mail Us:** info@ssdntech.com