Cisco Certified Network Professional (CCNP) Routing and Switching certification validates that you have the ability to plan, implement, verify and troubleshoot local and wide area enterprise networks and that you can work collaboratively with specialists on advanced security, voice, wireless and video solutions. You’ll gain the advanced skills necessary to plan, implement, verify and troubleshoot local and wide-area enterprise networks.

This is a performance-based course designed upon the job-related tasks that an advanced professional must perform using new or modified features in the Cisco systems. Achieving CCNP Routing and Switching demonstrates the skills required in enterprise roles such as network engineer, support engineer, systems engineer or network technician.

**COURSE OBJECTIVES**

- Configure OSPF in IPv4 and IPv6 environment
- Implement route redistribution using filtering mechanisms
- Troubleshooting IP connectivity (IPv4 and IPv6)
- Configuring and troubleshooting EIGRP and OSPF (IPv4 and IPv6)
- Describing network fundamentals
- Establishing Internet and WAN connectivity (IPv4 and IPv6)
- Gain knowledge/learn basic Network and Routing Concepts

**SALIENT FEATURES**

- High impact, proven training – Over 15,000 professionals globally have participated in our training programs
- Experienced, expert instructors – Our Instructors come with a rich, 10+ years’ industry experience
- We have different training methodologies that help participants learn better
MODULE 1: ROUTE - IMPLEMENTING CISCO IP ROUTING V2.0

BASIC NETWORK AND ROUTING CONCEPTS
- Differentiating Routing Protocols
- Understanding Network Technologies
- Connecting Remote Locations with the Headquarters
- Implementing RIPng

EIGRP IMPLEMENTATION
- Establishing EIGRP Neighbor Relationships
- Building the EIGRP Topology Table
- Optimizing EIGRP Behavior
- Configuring EIGRP for IPv6
- Discovering Named EIGRP Configuration

OSPF IMPLEMENTATION
- Establishing OSPF Neighbor Relationship
- Building the Link State Database
- Optimizing OSPF Behavior
- Configuring OSPFv3

CONFIGURATION OF REDISTRIBUTION
- Implementing
- Manipulating Redistribution

PATH CONTROL IMPLEMENTATION
- Using Cisco Express Forwarding Switching
- Implementing Path Control

ENTERPRISE INTERNET CONNECTIVITY
- Enterprise Internet Connectivity
- Single-Homed IPv4 Internet Connectivity
- Single-Homed IPv6 Internet Connectivity
- Resilience of Internet Connectivity
- Considering Advantages of Using BGP
- Basic BGP Operations
- Path Selection Process
- Controlling BGP Routing Updates
- BGP for IPv6 Internet Connectivity

MODULE 2: SWITCH - IMPLEMENTING CISCO IP SWITCHED NETWORKS V2.0

CAMPUS NETWORK ARCHITECTURE
- Implementing VLANs and Trunks
- Introducing VTP
- Implementing DHCP
- Implementing DHCP for IPv6
- Layer 2 Port Aggregation

SPANNING TREE IMPLEMENTATION
- Implementing RSTP
- ISTP Stability Mechanisms
- Multiple Spanning Tree Protocol

CONFIGURING INTER-VLAN ROUTING
- Inter-VLAN Routing Using a Router
- Configuring a Switch to Route

MODULE 2: ROUTE - IMPLEMENTING CISCO IP ROUTING V2.0

ROUTERS AND ROUTING PROTOCOL HARDENING
- Securing Cisco Routers
- Routing Protocol Authentication Options
- EIGRP Authentication
- OSPF Authentication
- BGP Authentication

BASIC CONCEPTS AND NETWORK DESIGN
- Analyzing Campus Network Structure
- Comparing Layer 2 and Multilayer Switches
- Using Cisco SDM Templates
- Implementing LLDP
- Implementing PoE

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## COURSE AGENDA

### IMPLEMENTING HIGH AVAILABILITY NETWORKS
- Network Time Protocol
- Implementing SNMP Version 3
- Implementing IP SLA
- Port Mirroring for Monitoring Support
- Verifying Switch Virtualization

### FIRST HOP REDUNDANCY IMPLEMENTATION
- Layer 3 Redundancy with HSRP
- Layer 3 Redundancy with VRRP
- VRRP With Load Balancing
- Layer 3 Redundancy with GLBP
- First Hop Redundancy for IPv6

### CAMPUS NETWORK SECURITY
- Implementing Port Security
- Implementing Storm Control
- Access to External Authentication
- Mitigating Spoofing Attacks
- Securing VLAN Trunks
- Configuring Private VLANs

### CISCO DIGITAL MEDIA PLAYERS
- Cisco DMP Characteristics and Installation
- Configuring Cisco DMPs
- Managing Cisco Edge 340 DMPs

### MODULE 3: TSHOOT - TROUBLESHOOTING AND MAINTAINING CISCO IP NETWORKS V2.0

### CISCO DIGITAL MEDIA PLAYERS
- Tools and Methodologies of Troubleshooting
- Troubleshooting at SECHNIK Networking Ltd.
- Troubleshooting at TINC Garbage Disposal Ltd.
- Troubleshooting at PILE Forensic Accounting Ltd.
- Troubleshooting at Bank of POLONA Ltd.
- Troubleshooting at RADULKO Transport Ltd.
ABOUT GREYCAMPUS

GreyCampus is a leading provider of on-demand training that address the unique learning needs of professionals, delivered as online self-learning, live online training or in-person classroom training. Our aim is to provide quality training enabling professionals to achieve their certification and career enhancement goals. We offer training for certifications in areas of Big Data & Hadoop, Project Management, Agile Training, IT Service Management, Quality Management, Workplace Tools, Programming, Networking, Cloud Computing, ERP and CRM.

ACCREDITATIONS & ASSOCIATIONS

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