CCNP Safe-Track (מסלול ערב)

משך הקורס: 150 שעות

כללי :

המרכז הישראלי לטכנולוגיה ותקשורת (IITC) הינה אקדמיית Cisco בעלת ההסמכה הבלעדית בארץ להעברת מסלול ה-CCNP. הבלעדיות על התוכנית ניתנה למרכז בעקבות הצלחתו של מנהל תחום תקשורת נתונים, מר יוני סלוקי, במעבר בחינות ההסמכה הייחודיות והבכירות של Cisco להדרכת CCNP. הבחינות התקיימו בברמינגהם אנגליה, באקדמיה הראשית של Cisco, ומר סלוקי הוא הישראלי היחידי עד כה אשר עבר את הבחינות הללו בהצלחה.

חטיבת ההדרכה במרכז הישראלי לטכנולוגיה ותקשורת מתמחה במתן פתרונות הדרכה והכשרה מקצועית בתחומי התקשורת. מדריכי המרכז הישראלי לטכנולוגיה ותקשורת הם מומחי Cisco בעלי הסמכות טכנולוגיות מתקדמות והסמכות ההדרכה הבכירות – CCSI, CCAI. במרכז הישראלי לטכנולוגיה ותקשורת קיימת מעבדת Cisco חדישה המאפשרת לסטודנטים לימוד והתנסות בתנאים המדמים את הנעשה בשטח. אחוז הניגשים והעוברים את מבחני Cisco מטעם המרכז הישראלי לטכנולוגיה ותקשורת הוא הגבוה ביותר בארץ. המסלול מביא אותך להסמכת CCNP הבין לאומית של חברת CISCO העולמית .

מטרות הקורס :

קורס זה, שהינו ראשון מסוגו, סולל לאנשי תקשורת דרך בטוחה להסמכת ה-CCNP. הקורס יקנה לתלמידיו את הידע והכישורים הדרושים לתכנן, להקים, לתפעל, לאבטח ולפתור תקלות ברשתות תקשורת גדולות מבוססות IP. הסמכת ה-CCNP מעידה על ידע רב בתחום רשתות תקשורת נתונים.

תנאי קבלה:

- הסמכת ה-CCNA, או ידע מקביל.
- ראיון עם מנהל התחום, מר יוני סלוקי.

תעודות:

- תעודת "CCNP Safe-Track" של המרכז הישראלי לטכנולוגיה ותקשורת- IITC.
- 3 תעודות סיום מודול של Cisco Academy - ROUTE, SWITCH, TSHOOT.
- תעודת הסמכה בינלאומית של חברת Cisco - CCNP.

משך הקורס:

סה"כ כל המסלול – 150 שעות
סה"כ מפגשים – 30
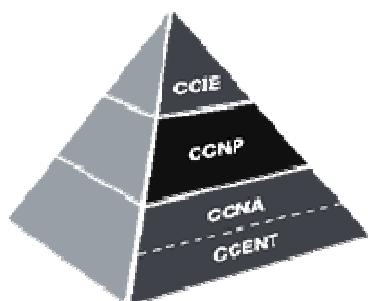
מס"ד	מודול	מס' בחינה*	שעות
1	ROUTE	300-101	75
2	SWITCH	300-115	60
3	TSHOOT	300-135	15

* לפרטים נוספים על הבחינות ניתן ללחוץ על מספר הבחינה.

**בסוף כל קורס מתקיימת בחינה מעשית.

*** בסוף כל קורס מתקיים מרתון בחינה חיצונית מותאם אישית.

****בין שלב לשלב יקבל התלמיד שבוע חופש.

Implementing Cisco IP Routing (300-101)

1.0 Network Principles

1.1 Identify Cisco Express Forwarding concepts

- FIB
- Adjacency table

1.2 Explain general network challenges

- Unicast
- Out-of-order packets
- Asymmetric routing

1.3 Describe IP operations

- ICMP Unreachable and Redirects
- IPv4 and IPv6 fragmentation
- TTL

1.4 Explain TCP operations

- IPv4 and IPv6 (P)MTU
- MSS
- Latency
- Windowing
- Bandwidth-delay product
- Global synchronization

1.5 Describe UDP operations

- Starvation
- Latency

1.6 Recognize proposed changes to the network

- Changes to routing protocol parameters
- Migrate parts of the network to IPv6

- Routing protocol migration

2.0 Layer 2 Technologies

2.1 Configure and verify PPP

- Authentication (PAP, CHAP)
- PPPoE (client side only)

2.2 Explain Frame Relay

- Operations
- Point-to-point
- Multipoint

3.0 Layer 3 Technologies

3.1 Identify, configure, and verify IPv4 addressing and subnetting

- Address types (Unicast, broadcast, multicast, and VLSM)
- ARP
- DHCP relay and server
- DHCP protocol operations

3.2 Identify IPv6 addressing and subnetting

- Unicast
- EUI-64
- ND, RS/RA
- Autoconfig (SLAAC)
- DHCP relay and server
- DHCP protocol operations

3.3 Configure and verify static routing

3.4 Configure and verify default routing

3.5 Evaluate routing protocol types

- Distance vector
- Link state
- Path vector

3.6 Describe administrative distance

3.7 Troubleshoot passive interfaces

3.8 Configure and verify VRF lite

3.9 Configure and verify filtering with any protocol

3.10 Configure and verify redistribution between any routing protocols or routing sources

3.11 Configure and verify manual and autosummarization with any routing protocol

3.12 Configure and verify policy-based routing

3.13 Identify suboptimal routing

3.14 Explain ROUTE maps

3.15 Configure and verify loop prevention mechanisms

- Route tagging and filtering
- Split-horizon
- Route poisoning

3.16 Configure and verify RIPv2

3.17 Describe RIPng

3.18 Describe EIGRP packet types

3.19 Configure and verify EIGRP neighbor relationship and authentication

3.20 Configure and verify EIGRP stubs

3.21 Configure and verify EIGRP load balancing

- Equal cost
- Unequal cost

3.22 Describe and optimize EIGRP metrics

3.23 Configure and verify EIGRP for IPv6

3.24 Describe OSPF packet types

3.25 Configure and verify OSPF neighbor relationship and authentication

3.26 Configure and verify network types, area types, and router types

- Point-to-point, multipoint, broadcast, nonbroadcast
- LSA types, area type: backbone, normal, transit, stub, NSSA, totally stub
- Internal router, backbone router, ABR, ASBR
- Virtual link

3.27 Configure and verify OSPF path preference

3.28 Configure and verify OSPF operations

3.29 Configure and verify OSPF for IPv6

3.30 Describe, configure, and verify BGP peer relationships and authentication

- Peer group
- Active, passive
- States and timers

3.31 Configure and verify eBGP (IPv4 and IPv6 address families)

- eBGP
- 4-byte AS number
- Private AS

3.32 Explain BGP attributes and best-path selection

4.0 VPN Technologies

4.1 Configure and verify GRE

4.2 Describe DMVPN (single hub)

4.3 Describe Easy Virtual Networking (EVN)

5.0 Infrastructure Security

5.1 Describe IOS AAA using local database

5.2 Describe device security using IOS AAA with TACACS+ and RADIUS

- AAA with TACACS+ and RADIUS
- Local privilege authorization fallback

5.3 Configure and verify device access control

- Lines (VTY, AUX, console)
- Management plane protection
- Password encryption

5.4 Configure and verify router security features

- IPv4 access control lists (standard, extended, time-based)
- IPv6 traffic filter
- Unicast reverse path forwarding

6.0 Infrastructure Services

6.1 Configure and verify device management

- Console and VTY
- Telnet, HTTP, HTTPS, SSH, SCP
- (T)FTP

6.2 Configure and verify SNMP

- v2
- v3

6.3 Configure and verify logging

- Local logging, syslog, debugs, conditional debugs
- Timestamps

6.4 Configure and verify Network Time Protocol (NTP)

- NTP master, client, version 3, version 4
- NTP authentication

6.5 Configure and verify IPv4 and IPv6 DHCP

- DHCP client, IOS DHCP server, DHCP relay
- DHCP options (describe)

6.6 Configure and verify IPv4 Network Address Translation (NAT)

- Static NAT, dynamic NAT, PAT

6.7 Describe IPv6 NAT

- NAT64
- NPTv6

6.8 Describe SLA architecture

6.9 Configure and verify IP SLA

- ICMP

6.10 Configure and verify tracking objects

- Tracking objects
- Tracking different entities (for example, interfaces, IPSLA results)

6.11 Configure and verify Cisco NetFlow

- NetFlow v5, v9
- Local retrieval
- Export (configuration only)

Implementing Cisco IP Switched Networks (300-115)

1.0 Layer 2 Technologies

1.1 Configure and verify switch administration

- SDM templates

- Managing MAC address table
- Troubleshoot Err-disable recovery

1.2 Configure and verify Layer 2 protocols

- CDP, LLDP
- UDLD

1.3 Configure and verify VLANs

- Access ports
- VLAN database
- Normal, extended VLAN, voice VLAN

1.4 Configure and verify trunking

- VTPv1, VTPv2, VTPv3, VTP pruning
- dot1Q
- Native VLAN
- Manual pruning

1.5 Configure and verify EtherChannels

- LACP, PAgP, manual
- Layer 2, Layer 3
- Load balancing
- EtherChannel misconfiguration guard

1.6 Configure and verify spanning tree

- PVST+, RPVST+, MST
- Switch priority, port priority, path cost, STP timers
- PortFast, BPDUguard, BPDUfilter
- Loopguard and Rootguard

1.7 Configure and verify other LAN switching technologies

- SPAN, RSPAN

1.8 Describe chassis virtualization and aggregation technologies

- Stackwise

2.0 Infrastructure Security

2.1 Configure and verify switch security features

- DHCP snooping
- IP Source Guard
- Dynamic ARP inspection
- Port security
- Private VLAN
- Storm control

2.2 Describe device security using Cisco IOS AAA with TACACS+ and RADIUS

- AAA with TACACS+ and RADIUS
- Local privilege authorization fallback

3.0 Infrastructure Services

3.1 Configure and verify first-hop redundancy protocols

- HSRP

- VRRP
- GLBP

Troubleshooting and Maintaining Cisco IP Networks v2 (300-135)

1.0 Network Principles

1.1 Use Cisco IOS troubleshooting tools
- Debug, conditional debug
- Ping and trace route with extended options

1.2

pply troubleshooting methodologies
- Diagnose the root cause of networking issues (analyze symptoms, identify and describe root cause)
- Design and implement valid solutions
- Verify and monitor resolution

2.0 Layer 2 Technologies

2.1 Troubleshoot switch administration
- SDM templates
- Managing MAC address table
- Troubleshoot Err-disable recovery

2.2 Troubleshoot Layer 2 protocols
- CDP, LLDP
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3.11 Troubleshoot policy-based routing

3.12 Troubleshoot suboptimal routing

3.13 Troubleshoot loop prevention mechanisms
- Route tagging, filtering
- Split-horizon
- Route poisoning

3.14 Troubleshoot RIPv2

3.15 Troubleshoot EIGRP neighbor relationship and authentication

3.16 Troubleshoot loop free path selection
- RD, FD, FC, successor, feasible successor

3.17 Troubleshoot EIGPR operations
- Stuck in active

3.18 Troubleshoot EIGRP stubs

3.19 Troubleshoot EIGRP load balancing
- Equal cost
- Unequal cost

3.20 Troubleshoot EIGRP metrics

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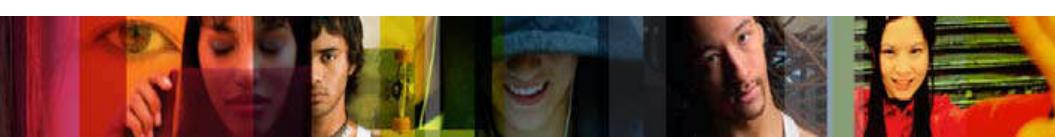
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