

Training Objectives: -

This training covers the syllabus of Cisco Certified Network Associate (CCNA) Exam and tests a candidate's knowledge and skills required installing, operating, and troubleshooting a small to medium size enterprise branch network. The topics include connecting to a WAN; implementing network security; network types; network media; routing and switching fundamentals; the TCP/IP and OSI models; IP addressing; WAN technologies; operating and configuring IOS devices; extending switched networks with VLANs; determining IP routes; managing IP traffic with access lists etc.

Career Option:

- ✓ Network Administrator
- ✓ System Administrator
- ✓ Windows Administrator
- ✓ Telecom Engineer
- ✓ Network Engineer

Duration	4 Weeks
Starting Date	12 January 2015
Seats	30
FEES	RS. 6,500=00/- (S.Tax Included)
ELIGIBILITY	B.TECH. (CS/IT/EC) or MCA/M.Sc. (IT/CS/Electronics), BCA /PGDCA, Diploma in Computer /Electronics Stream, B.Sc. or B.A. A/B/C Level, Working Professional. Basic knowledge of computing is desirable

How to Apply:

For Admission, submit completely filled in application form along with course fee either in Cash or Demand Draft in favor of "NIELIT, Gorakhpur". The application form may be downloaded from our website or collected from reception.

Accommodation:

Hostel accommodation is available for Male candidates only.

Training Highlights:

- Well Managed Course pattern

- Daily Handouts & Lab Exercise
- Industry Compliant Syllabus
- Use of Latest Tools & Technology
- LAB Assistance
- Regular Quiz

Course Contents (Syllabus of Training)

Module I

Internetworking Basics, Broadcast domain, Collision Domain, Hub, Switch & Router ,Ethernet Cabling: - Straight-Through Cable, Crossover Cable, Rolled Cable

Module II

Internet Protocols: - TCP/IP Model, IP Addressing, IP Terminology, IP Addressing Scheme, Private IP Addresses ,TCP/IP Troubleshooting utilities, Troubleshooting IP Addressing.

Module III

IP Subnetting and Variable Length Subnet Masks (VLSM)

Subnetting Basics, How to Create Subnets, Subnet Masks, Classless Inter-Domain Routing (CIDR), Subnetting Class C Addresses, Subnetting Class B Addresses, Subnetting Class A Addresses, Variable Length Subnet Masks (VLSMs), VLSM Design, Implementing VLSM Network

Module IV:

Introduction to the Cisco IOS the Cisco Router User Interface, Cisco Router IOS, Connecting to a Cisco Router, Bringing up a Router, Setup Mode, Command-Line Interface, Logging into the Router, Overview of Router Modes, CLI Prompts, Basic commands

Module V:

IP Routing, Routing Basics, Static Routing, Default Routing, Dynamic Routing, Routing Protocol Basics, Administrative Distances, Routing Protocols, Distance-Vector Routing Protocols, Maximum Hop Count, Route Poisoning , Routing Information Protocol (RIP), Interior Gateway Routing Protocol (IGRP)

Module VI

Enhanced IGRP (EIGRP) and Open Shortest Path First (OSPF) EIGRP Features and Operation, Open Shortest Path First (OSPF) Basics

Module VII

Layer 2 Switching Switching basics, Configuring the Catalyst 1900 and 2950 Switches,1900 and 2950 Switch Startup, Setting the Passwords, Setting the Hostname, Setting IP Information, Configuring Interface Descriptions, Erasing the Switch Configuration

Module VIII

Virtual LANs (VLANs) VLAN Basics, Broadcast Control, Security ,Flexibility and Scalability ,VLAN Memberships, Static VLANs ,Dynamic VLANs, Identifying VLANs, Frame Tagging, LAN Identification Methods , Inter-Switch Link (ISL) Protocol ,VLAN Trunking Protocol (VTP),VTP Modes of Operation, VTP Pruning, Routing between VLANs ,Configuring VLANs, Assigning Switch Ports to VLANs ,Configuring Trunk Ports ,Configuring Inter- VLAN Routing, Configuring VTP.

Module IX

Managing a Cisco Internetwork The Internal Components of a Cisco Router, The Router Boot Sequence Understanding the Configuration Register Bits, Checking the Current Configuration Register Value, Changing the Configuration Register, Recovering Passwords, Backing Up and Restoring the Cisco IOS, Verifying Flash Memory, Backing Up the Cisco IOS, Restoring or Upgrading the Cisco Router IOS ,Backing Up and Restoring the Cisco Configuration, Erasing the Configuration

Module X

Managing Traffic with Access Lists Introduction to Access Lists, Standard Access Lists, Wildcard Masking, Standard Access List Example, Controlling VTY (Telnet) Access, Extended Access Lists, Extended Access List Example, Named Access Lists, Monitoring Access Lists

Module XI

Network Address translation NAT, Introduction to Network addresses Translation (NAT), Port address translation (PAT), Static NAT, Dynamic NAT, NAT Overloading

Module XII

ISM band, 802.11a/b/g wireless standards, Adhoc, infrastructure mode of WLAN, Access Point in Repeater Mode, Security in WLAN, MAC Filtering, WEP/WPA

Lab Modules

1. To create a Crossover Cable using standard color-coding (RJ-45, UTP, Crimping tools).
2. Straight cable using standard color-coding. (RJ-45, UTP, Crimping tools).
3. To study TCP/IP command utilities (ipconfig, hostname, ping, arp, traceroute, pathping, net stat, nslookup etc)
4. To study Cisco Router & its interface. (Console port, AUI, Serial, Auxiliary, Ethernet, Fast Ethernet, BRI)
5. To study, Switch & its interface. (Console port, Ethernet, Fast Ethernet)
6. To bring up a router first time, logging into a router, basic commands, saving NVRAM configuration.
7. To configure a router for different LAN segments.
8. To configure IP Routing by creating Static Routes. (Static Routing)
9. To study IP routing by using RIP (Routing Information Protocol)- Dynamic Routing.
10. To study IP Routing by using EIGRP (Enhanced IGRP)- Dynamic Routing.
11. To study IP Routing by using OSPF (Open Shortest Path First)- Dynamic Routing.
12. Password recovery in Cisco router using rommon mode.
13. Backing Up and Restoring the Cisco IOS, Configuration File using TFTP server
14. To bring up a Switch first time, logging into a switch, basic commands
15. To configure VLANs and Inter-VLAN Routing.
16. To manage traffic using standard IP Access list.
17. To manage traffic using Extended IP Access list
18. To manage traffic using Named IP Access list
19. Configuring Static NAT on Cisco router
20. Configuring Dynamic NAT on Cisco router
21. Configuring NAT Overloading on Cisco router
22. Configuring Port Forwarding / PAT on Cisco router
23. Setting up a WLAN in Adhoc mode.
24. To configure an Access Point
25. Configuring an Access Point in Repeater Mode.
26. Configuring access point for Infrastructure mode.
27. Using Access Point as a DHCP Server
28. To implement MAC Filtering security in WLAN

29. Implementing security in WLAN through WEP/WPA.
30. To Study NIELIT, GORAKHPUR Campus Network.

CONTACT FOR INFORMATION:

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DATA COMMUNICATION (ROUTING & SWITCHING) & SECURITY TECHNOLOGIES -A PRACTICAL APPROACH



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