Cisco Systems

Certificate of Course Completion

CCNA 1—Networking Basics

During the Cisco® Networking Academy® CCNA 1 course administered by the undersigned instructor, the student was able to proficiently:

- Define and install the hardware and software required to be able to communicate across a network
- Demonstrate the mathematical skills required to work effortlessly with integer decimal, binary, and hexadecimal numbers and simple binary logic
- Define and describe the structure and technologies of computer networks
- Describe the meaning and application of the term "bandwidth" when used in networking
- Describe, compare, and contrast network communications using two examples of layered models
- Describe the physical, electrical, and mechanical properties and the standards associated with copper and optical media used in networks
- Describe what is required to install a simple WLAN
- Explain the issues associated with the transmission of signals on networking media
- Describe the topologies and physical issues associated with cabling common LANs
- Describe the physical issues associated with cabling networking equipment to work over a WAN link
- Explain the fundamental concepts associated with the Ethernet media access technique
- Explain how collisions are detected and the concepts associated with autonegotiation on an Ethernet system
- Define and describe the structure and technologies of computer networking systems
- Describe networking topologies and physical issues associated with cabling common LANs
- Describe the principles and practice of switching on an Ethernet network
- Describe how the protocols associated with TCP/IP allow host communication to occur
- Explain and demonstrate the mechanics associated with IP addressing
- Describe how an IP address is associated with a device interface and the association between physical and logical addressing
- Describe the principles and practice of packet switching using the Internet Protocol (IP)
- Describe the concepts associated with routing and the different methods and protocols used to achieve it
- Describe the fundamental concepts associated with transport layer protocols and compare the connectionless approach to transport with the connection-oriented one
- List the major TCP/IP application protocols and briefly define their features and operation

MD. MOSTAFIZUR RAHAMAN

Student's Name

July 8, 2006

Date

Rashid Mohammad Shahinur

Instructor

Ahsanullah University of Science and Technology (AUST)

Academy Name

Dhaka

Location

Instructor's Signature

Cisco Systems

Certificate of Course Completion

CCNA 2—Router and Routing Basics

During the Cisco® Networking Academy® CCNA 2 course administered by the undersigned instructor, the student was able to proficiently:

- Identify the important characteristics of common WAN configurations and technologies, differentiate between these and common LAN technologies, and describe the role of a router in a WAN
- Identify the major internal and external components of a router and describe the associated functionality
- Properly connect router Fast Ethernet, Serial WAN, and console ports
- Describe the purpose and fundamental operation of the router operating system (IOS®)
- Establish communication between a terminal device and the router operating system (IOS) and use it for system analysis, configuration, and repairs
- Perform, save, and test an initial configuration on a router
- Configure additional administrative functionality on a router
- Use embedded data-link layer functionality to perform network neighbor discovery and analysis from the router console
- Use embedded Layer 3 through Layer 7 protocols to establish, test, suspend, or disconnect connectivity to remote devices from the router console
- Identify the stages of the router boot-up sequence and show how the **configuration-register** and **boot system** commands modify that sequence
- Manage system image and device configuration files
- Identify, configure, and verify the use of static and default routes
- Evaluate the characteristics of routing protocols
- Identify, analyze, and show how to rectify inherent problems associated with distance vector routing protocols
- Configure, verify, analyze, and troubleshoot simple distance vector routing protocols
- Describe the operation of ICMP and identify the reasons, types, and format of associated error and control messages
- Use embedded Layer 3 through Layer 7 protocols to establish, test, suspend, or disconnect connectivity to remote devices from the router console
- Use the commands incorporated within Cisco IOS Software to analyze and rectify network problems
- Describe the operation of the major transport layer protocols and the interaction and transportation of application layer data
- Identify the application of packet control with various access control lists
- Analyze, configure, implement, verify, and rectify access control lists within a router configuration

MD. MOSTAFIZUR RAHAMAN
Student's Name

September 30, 2006
Date

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Cisco Systems

Certificate of Course Completion

CCNA 3—Switching Basics and Intermediate Routing

During the Cisco® Networking Academy® CCNA 3 course administered by the undersigned instructor, the student was able to proficiently:

- Compute and use Variable Length Subnet Masking (VLSM) techniques to design and implement effective and efficient IP addressing
- Describe, configure, verify, analyze, and troubleshoot the RIP v2 distance vector routing protocol
- Describe the concepts and techniques of link-state routing, and compare and contrast with distance vector routing
- Describe, configure, verify, analyze, and troubleshoot the OSPF link-state routing protocol in a single area mode of operation
- Describe, configure, verify, analyze, and troubleshoot the Extended IGRP routing protocol
- Demonstrate an ability to troubleshoot routing protocol problems, specifically using and interpreting the **show** and **debug** commands
- Describe the operation and technology of the IEEE 802.3 Ethernet variants
- Describe and compare the concepts and techniques used within Ethernet switched LANs
- Describe and compare the concepts and techniques used by Ethernet LAN switches
- Design a simple LAN using layered techniques
- Describe the three-layer process as used by Cisco for internetwork design purposes
- Describe, configure, and administer a Cisco Catalyst® LAN switch
- Compare and contrast various forms of redundancy built into networks, and explain the advantages and disadvantages of redundancy incorporation
- Describe the operation of the spanning-tree algorithm, and describe the methods by which it is implemented and used in a switched network
- Describe and compare the concepts, advantages, and disadvantages of virtual LANs
- Describe, configure, and administer inter-switch VLANs on Cisco switches
- Troubleshoot VLANs
- Describe, configure, and administer VTP on Cisco switches
- Describe, configure, and administer routing between VLANs on Cisco switches

MD. MOSTAFIZUR RAHAMAN
Student's Name

February 24, 2007
Date

Rashid Mohammad Shahinur
Instructor's Name

Ahsanullah University of Science and Technology \(AUST\) Dhaka
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Cisco Systems

Certificate of Course Completion

CCNA 4—WAN Technologies

During the Cisco® Networking Academy® CCNA 4 course administered by the undersigned instructor, the student was able to proficiently:

- Describe the concepts and characteristics of Network Address Translation, and explain its configuration, use, and administration on a network
- Describe the concepts and characteristics of the Dynamic Host Configuration Protocol (DHCP), and explain its configuration, use, and administration on a network
- Describe, compare, and contrast the essential features of WAN technology
- Classify WAN link options and explain the differences between circuit-switched and packet-switched technologies
- Make recommendations about provisioning of WAN services based on the network needs of the customer
- Design a simple WAN system using a hierarchical layered approach to the design
- Describe the operation, configuration, and functionality of serial point-to-point links
- Configure and administer serial point-to-point links
- Describe the concepts, characteristics, and functionality of the Point to Point Protocol (PPP)
- Configure and administer PPP on a serial link
- Describe the concepts, characteristics, and functionality of ISDN
- Configure and administer a router ISDN interface
- Describe the concepts, characteristics, and functionality of Dial-on-Demand Routing (DDR)
- Configure and administer DDR in a network
- Describe the concepts, characteristics, and functionality of Frame Relay
- Configure and administer Frame Relay using PVCs
- Describe, compare, and contrast workstation and server operating systems and the associated hardware
- Describe the concepts of network management, and explain how network management tools are used on a modern network

MD. MOSTAFIZUR RAHAMAN

Student's Name

June 8, 2007

Date

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