CISCO SYSTEMS

NETWORKING
ACADEMY

CERTIFICATE OF COURSE COMPLETION

CCNA 4 WAN TECHNOLOGIES

Glenn Robinson

Date : May 6, 2004

Instructor : John, Rakesh

Location : Menlo Park

Academy Name : Opportunities
Industrialization
Center West

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Instructor's Signature

During the 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 the provision of WAN services based on needs

• Design a simple WAN system using a hierarchical tiered approach to the design

• Describe the operation, configuration, and functionality of serial point—point links

• Configure and administer serial point—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 permanent virtual circuit (PVC) Frame Relay WAN operations

• 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 utilized on a modern network

• Describe the concepts and technologies associated with optical data transmission