

ROYAL INSTITUTE OF INFORMATION AND MANAGEMENT

Cisco - CCNA (Cisco Certified Network Associate)

Layered Models

- OSI Reference Model.
- Application Layer, Presentation Layer.
- Session Layer, Transport Layer.
- Network Layer, Datalink Layer, Physical Layer .
- Cisco Three-Layer Model.

TCP/IP

- Introduction to TCP/IP.
- Transport Layer Protocols (TCP, UDP).
- Internet Layer Protocols (IP, ICMP, ARP).

IP Addressing

- IP Addressing Classes.
- Subnet Masks and Subnetting.
- Complex Subnet & Super netting.
- Determining Broadcast & Network Address.

Configuring a Router

- Starting up with a Router and Switch.
- Booting a Router and setup mode.
- The Command-line Interface.
- Passwords and Line Console Commands.
- Interface Configuration setting.
- Verifying & Debugging the Configuration.

Building a Network

- Configuring a Router and Switch.
- Verifying Configuration and Duplex Settings.
- Continued Router Configuration.
- Continued Switch Configuration.

Managing CISCO in an Internetwork

- Backing up and restoring startup configuration and IOS.
- Booting IOS from TFTP Server.
- Cisco Discovery Protocol.
- Ping and Trace.
- Understanding configuration register.
- Recovering the password.

IP Routing

- Routing Basics.
- Managing static and Dynamic Routes.
- Configuring static IP Routing.
- Configuring Dynamic IP routing using RIP, IGRP.
- Managing and configuring OSPF & EIGRP.
- Avoiding Routing loops using split horizon, route poisoning.

Switching

- Bridging versus switching.
- Working concept of Switch.
- Spanning Tree Protocol (STP).
- LAN Switch Types.

Virtual LANs

- VLAN membership.
- VLAN Configuration and VTP.
- Assigning Ports.
- ISL Routing and Frame tagging.
- Perform LAN and VLAN troubleshooting.

Access Lists

- Access Lists Commands.
- Standard IP Access List.
- Wildcard Cards Implementing an Access List.
- Extended Access Lists.
- IPX access Lists.
- Securing a Network Site with Access list.

WAN

- WAN Connection Types ISDN, X.25, Leased line and Frame-Relay.
- Connection protocols.
- HDLC, PPP AND PPMP.
- Dial-on-Demand Routing.
- Frame Relay configuration.
- Subinterfaces in Frame-Relay.

Troubleshooting and Debugging Tools.