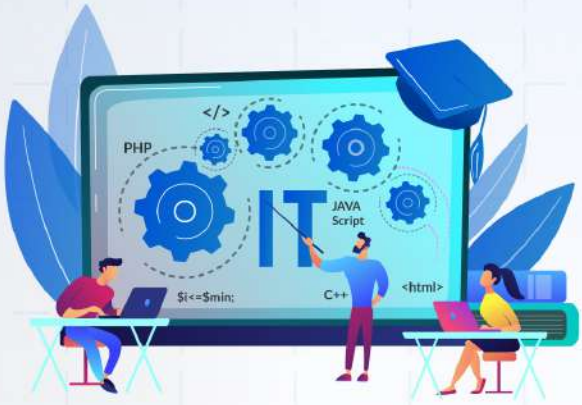
AiiTE Academy
Lead Everywhere by Learning

Cisco Certified Network Associate

Course Curriculum

ISO 9001 2015 CERTIFIED

About AiiTE



Welcome to AiiTE Academy, where we help you master the latest IT skills for a successful career in technology. Established in April 2019, we are Chennai's top IT training academy, offering high-quality courses in machine learning, artificial intelligence, full-stack development, and quality assurance testing. Our expert instructors provide hands-on training to ensure you gain the practical knowledge needed to excel. With flexible learning options, AiiTE Academy is committed to preparing you for success in the fast-paced IT industry.

Why Choose AiiTE

- Hands-on Learning
- Career Focused Training
- Flexible Learning Options
- Expert Trainers

Our Vision

To be recognized as the best IT training institute in Chennai, known for our innovative teaching methods and commitment to producing industry-ready professionals.

Our Mission

To equip students with cutting-edge IT skills and provide them with the knowledge needed to excel in their careers.

SINCE

2019

55+
Certified Courses

250+
Placement Tieups

9000+
Students

45+
Expert Trainers

100%
Placements Assistance

6500+
Successful Placements

Introduction

- Foundational Networking Technologies

Common Network Components

- Routers
- Switches
- Security Appliances
- Wireless Access Points
- Endpoints and Servers
- Cisco Catalyst Centre
- Virtualized Devices
- TCP vs UDP

Common Network Architectures And Designs

- Three-Tier vs Collapsed Core Architectures
- Spine-Leaf Design for Data Centres
- Wide Area Network (WAN) Topologies
- Small Office - Home Office (SOHO) Architecture
- Cloud Deployment Models

Network Cabling

- Network Cabling Fundamentals
- Ethernet Cabling and Connectors
- Fiber Optic Cabling
- Twisted Pair Cabling and Standards
- Coaxial Cabling
- Cabling Tools and Testing
- Cable Management Best Practices

IPv4 Addressing

- Binary Numbering
- Binary Best practices
- IPv4 Address Characteristics
- IPv4 Address Format
- Public vs Private IPv4 Addresses
- Network Address Translation
- IPv4 Traffic Flows
- IPv4 Address Assignment, Verification, and Name Resolution
- Manual IPv4 Address Assignment
- Dynamic IPv4 Address Assignment
- Domain Name System

Subnetting

- The Need for subnetting
- Calculating Available subnets
- Calculating Available Hosts
- Subnetting Practice Exercise#1
- Subnetting Practice Exercise#2
- Calculating Usable Ranges of IPv4 Addresses
- Subnetting Practices Exercise#3

IPv6 Addressing

- IPv6 Address Format and Communication
- Hexadecimal Numbering
- IPv6 Address Format
- Shortening an IPv6 address
- IPv6 Address Shortening Exercise

IPv6 Address Types

- IPv6 Global Unicast
- IPv6 Unique Local
- IPv6 Traffic Flows
- IPv6 Loopback
- IPv6 Unspecified
- IPv6 Solicited-Node Multicast
- Manual IPv6 Address Assignment
- EUI-64
- Dynamic IPv6 Address Assignment

Ethernet Switching

- Ethernet Switch Fundamentals
- Layer2 vs. Multilayer Switches
- Examining the MAC Address Table

Neighbor Discovery

- Cisco Discovery Protocol
- CDP Configuration
- Link Layer Discovery Protocol
- LLDP Configuration
- LAB: CDP and LLDP

Virtual LANs (VLANs)

- VLAN Theory
- VLAN configuration
- LAB: VLAN's
- Router-on-a-stick
- Switch Virtual Interface
- Routed Switch Port

Trunking

- Trunking Modes
- Trunking Configuration
- LAB: Trunking
- Voice VLAN Theory
- Voice VLAN Configuration

Spanning Tree Protocol (STP)

- STP Port-states
- STP Exercise
- STP Convergence Times
- PVST+Theory and Configurations
- Portfast

- Root Guard
- Loop Guard
- BPDU filter
- BPDU Guard
- MSTP Theory
- Rapid PVST+Theory
- Rapid PVST+Configuration
- LAB: Spanning Tree Protocol

Etherchannel

- Introduction to Etherchannel
- Etherchannel Port Options
- Etherchannel Load Balancing
- Layer 2 EtherChannel Configurations
- LAB: Etherchannel
- Layer 3 Etherchannel Configuration

Introduction To Routing

- Routing Fundamentals
- Review of the Routing Process
- Administrative distance
- Routing Protocol Comparison
- Routing Table Examination

Static Routing

- Static Default Route Configuration
- Static Network Route Configuration
- Static Host Route Configuration
- Floating Static Route Configuration

OSPFv2 Routing

- OSPF Neighbour Formation
- DR and BDR Election
- OSPF Network Types
- OSPF Areas
- LSA Types
- OSPFv2 configuration
- OSPFv2 Verification
- LAB: OSPF

First Hop Redundancy Protocols (FHRPs)

- FHRP
- HSRP
- VRRP
- GLBP

Wireless Networks

- Overview of Wireless Networks
- Wireless Access Points
- Wireless LAN Design
- Access Point Modes
- Service Set terminology
- Radio Frequency Basics
- Wireless Interference

Wireless Network Configuration

- Wireless Network Configuration
- Selecting a Wi-Fi Standard
- Transmission Methods
- Spatial Streams
- Channel Bonding
- WLC configuration via a Graphical Interface

Network Services

- Network Address Translation (NAT)
- Static NAT configuration
- Dynamic NAT Configuration
- Port Address Translation Configuration
- LAB: Static NAT
- LAB: Dynamic NAT
- LAB: Port Address Translation (PAT)

Network Time Protocol (NTP)

- NTP theory
- NTP configuration and verification
- LAB: NTP

Dynamic Host Configuration Protocol (DHCP)

- Dynamic Host Configuration Protocol (DHCP)
- Configurating Routers as DHCP Clients and Servers
- LAB: DHCP

Quality Of Service (QoS)

- Fundamentals of QOS
- Traffic Markings
- Prioritizing Traffic Types
- Shaping, Policing and Token Bucket
- Configuring QOS

Network Security

- Threats and Defence
- CIA Triad
- Threats and Vulnerabilities
- Social Engineering Attacks
- Denial of Service Attacks
- Other Common attacks
- Password Protection of CISCO Devices
- AAA
- Multi-Factor Authentication
- Encryption
- VPN
- Password Best Practices
- Wireless Security Protocols
- Configuring a Wireless LAN for WPA2 with a Pre-Shared Key

Access Control Lists (ACLs)

- ACL Overview
- Numbered Standard ACL
- Numbered Extended ACL
- Named ACL
- ACL Considerations
- LAB: Standard Numbered ACL
- LAB: Extended Numbered ACL
- LAB: Extended Named ACL

Layer 2 Security Features

- DHCP Snooping Theory
- DHCP snooping configuration
- Dynamic ARP Inspection (DAI) Theory
- Dynamic ARP Inspection (DAI) Configuration
- Port Security Theory
- Port Security Configuration

Network Programmability

- Software Defined Networking (SDN)
- Overview of SDN
- REST API's
- JSON Formatting
- CISCO SDN Controllers
- Software Defined Architecture

Configuration Management

- The DevOps Lifecyle
- Configuration Management with Ansible
- Configuration Management with Terraform

Thank You!

We're excited at the opportunity to work together and make this training program a success. Let's put our heads together and create an engaging and rewarding learning experience that Will benefit everyone involved.

Connect With Us

95514 11693 | 90928 18068

98846 67742

www.aiiteacademy.in

Enroll Now