

# NS3EDU.



Learn Today



Earn Tomorrow

# COURSE

## Hardware Networking Diploma

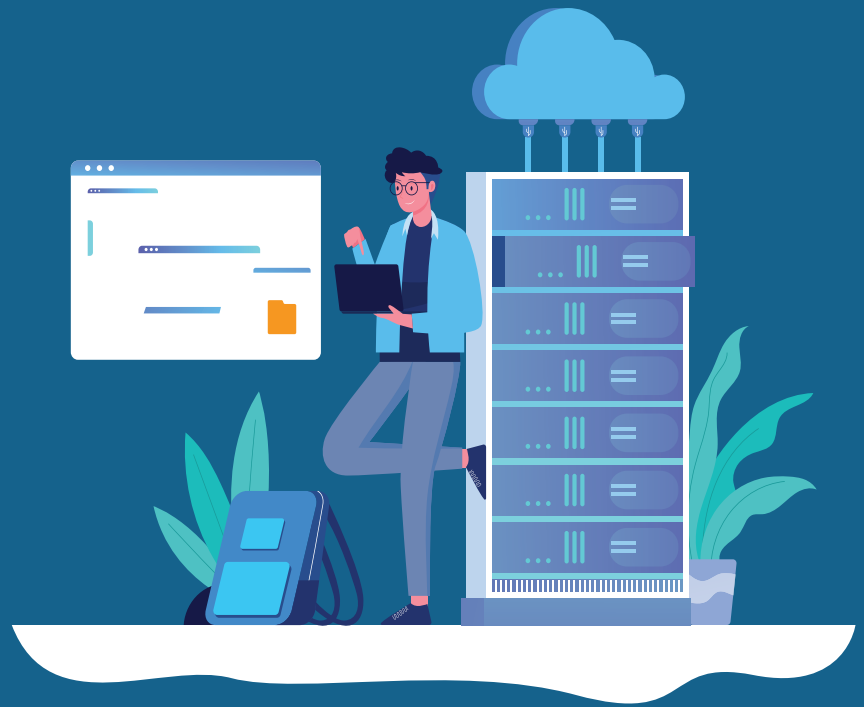


# TABLE OF CONTENT

1	Overview	3
2	Roadmap of Job Placements	4
3	USP's	5
4	Course Outline	6 – 13
5	Our Placement Partner	14



# NS3EDU: BRIDGE YOUR IT DREAMS TO REALITY



## EMPOWERING CAREERS THROUGH KNOWLEDGE

Looking to make it big in  
the world of IT networking?  
Look no further than  
NS3Edu! We help beginners  
learn the ropes & experienced  
pros master new skills. Come  
join us and build your dream  
career!



## CERTIFICATES



## MISSION

The mission of NS3Edu is to  
empower our candidates  
with in-depth knowledge  
of IT fundamentals along  
with real-time industry  
experience and also take  
100% responsibility for the  
placement by making  
them Industry fit.



## VISION

In-depth knowledge +  
hands-on experience +  
analytical thinking =  
placement



Learning



Opportunity



Experience



Career



# ROADMAP OF **JOB** PLACEMENT

Confused  
in **Different**  
Career Options



**Qualifies-**  
Job Placement



Counselling &  
**Demo** sessions



Opportunities  
for **Job**  
Placement



Student  
Enrollment &  
Induction  
**session**



Screening by  
Corporate **HR &**  
**Tech** Team



Course  
**Kick** off  
(Live Classes)



2 Week **Technical**  
**Task** Training



**Access to**  
Recorded Sessions,  
E book & Lab Manual



NS3 Tech  
**Industrial** Exposure



Course **Completion**



Learning



Opportunity



Experience



Career



# WHAT MAKES US UNIQUE?

## USP's



# HARDWARE

## COURSE OUTLINE

### Module-1

- 1 Basics of Computer
- 2 What is Hardware & Types of hardware
- 3 Processor or cpu
- 4 Motherboard
- 5 Ram
- 6 Storage
- 7 Sata/ATA/NVME
- 8 Smmps
- 9 Types of Storage
- 10 Bios
- 11 Types of Bios
- 12 Windows & MS office installation
- 13 Printer
- 14 Scanner
- 15 Pci slots
- 16 NIC
- 17 Ports
- 18 Front panel setting
- 19 Pc security
- 20 Firewall inbound/outbound
- 21 Password break of windows
- 22 Hardware/pc assembling
- 23 Monitor
- 24 Networking/devices & cables
- 25 MS Office

### Module-1 Exam



# NETWORKING ASSOCIATE

## COURSE OUTLINE

### Module-2

#### 1. General Networking

- Introduction to Networks
- OSI Reference Model
- Ethernet Technologies
- Hubs vs Switches vs Routers
- IPv4 Addressing and Subnetting
- IPv6 Addressing
- TCP & UDP
- Introduction to 802.11 Wireless
- Cisco 802.11 Implementations

#### 2. CCNA

##### Network Fundamentals

- Explain the role and function of network components
- Describe characteristics of network topology architectures
- Compare physical interface and cabling types
- Identify interface and cable issues (collisions, errors, mismatch duplex, and/or speed)
- Compare TCP to UDP
- Configure and verify IPv4 addressing and subnetting
- Describe the need for private IPv4 addressing
- Configure and verify IPv6 addressing and prefix
- Compare IPv6 address types
- Verify IP parameters for Client OS (Windows, Mac OS, Linux)
- Describe wireless principles
- Explain virtualization fundamentals (virtual machines)



## Network Fundamentals

- Configure and verify VLANs (normal range) spanning multiple switches
- Configure and verify inter switch connectivity
- Password Recovery And Switch Reset (Layer2/Layer 3)
- Configure and verify Layer 2 discovery protocols (Cisco Discovery Protocol and LLDP)
- Configure and verify (Layer 2/Layer 3) EtherChannel (LACP)
- Describe the need for and basic operations of Rapid PVST+ Spanning Tree Protocol and identify basic operations
- Upgradation of the Firmware's for Layer 2 and Layer 3 Switches through TFTP and USB
- Compare Cisco Wireless Architectures and AP modes
- Factory Reset of Access Points and Basic Ap Configuration
- Describe physical infrastructure connections of WLAN components (AP,WLC, access/trunk ports and LAG)
- Describe AP and WLC management access connections (Telnet, SSH, HTTP,HTTPS, console, and TACACS+/RADIUS)
- Configure the components of a wireless LAN access for client connectivity using GUI only such as WLAN creation, security settings, QoS profiles, and advanced WLAN settings

## IP Connectivity

- Interpret the components of routing table
- Determine how a router makes a forwarding decision by default
- Configure and verify IPv4 and IPv6 static routing
- Configure and verify single area OSPFv2
- Describe the purpose of first hop redundancy protocol

## Security Fundamentals

- Define key security concepts (threats, vulnerabilities, exploits, and mitigation techniques)
- Describe security program elements (user awareness, training, and physical access control)
- Configure device access control using local passwords
- Describe security password policies elements, such as management, complexity, and password alternatives (multi factor authentication, certificates, and biometrics)
- Describe remote access and site-to-site VPNs
- Configure and verify access control lists
- Configure Layer 2 security features (DHCP snooping, dynamic ARP inspection, and port security)
- Differentiate authentication, authorization, and accounting concepts
- Describe wireless security protocols (WPA, WPA2, and WPA3)
- Configure WLAN using WPA2 PSK using the GUI
- Converting an AP from Mobility Express to CAPWAP Type and Vice Versa
- Configuration of AP as a Controller
- WLAN Configuration Cisco Mobility Express Controller with (WPA,WPA2,WPA3, Guest WLAN)



## Automation & Programmability

- Explain how automation impacts network management
- Compare traditional networks with controller-based networking
- Describe controller-based and software defined architectures (overlay, underlay, and fabric)
- Compare traditional campus device management with Cisco DNA Center enabled device management
- Describe characteristics of REST-based APIs (CRUD, HTTP verbs, and data encoding)
- Recognize the capabilities of configuration management mechanisms Puppet Chef & Ansible
- Interpret JSON encoded data
- License Installation Process For Cisco L2/L3 Devices

## Job Assistance

- Cisco Certified Trainer
- Bilingual Lectures
- Hands on Lab
- Q&A Preparation and Assessment Module
- Recorded Sessions

# Module-2 Exam



# NETWORKING

## Professional in Encor–Enarsi

### Course Outline

#### Module-3

#### Week(1)

- CCNA and Over View Of CCNP Enterprise
- Introduction Of TCP/IP Model, L2 Forwarding, Mac Address Table Concept
- Vlan Introduction and configuration, Types of Vlan, DTP and Native Vlan
- Trunk and Access port, Dynamic Auto and Dynamic Desirable practical, Concept of Sub Interfaces (Show Interval routing using routers).
- Practical Day For All the topics we have covered.

#### Week(2)

- Forwarding Architecture: - Process Switching, Cisco Express Forwarding (CEF) || Revision Day
- Introduction To Spanning Tree Protocol (STP), Root Bridge Election, how to calculate Loop Free Topology
- Basic practical of spanning tree on Rack, Root Bridge Manipulation method,
- Cost manipulation, explain STP Port states
- PVST + and CST Difference, Show practical of load balancing
- Introduction to RSTP, RSTP Port States, RSTP synchronization + Practical

#### Week(3)

- Topology change in PVST + and RSTP (compare and show which is better)
- STP Mechanism --STP Protection with practical (Root Guard, Loop Guard)
- STP Protection: - BPDU Guard, BPDU Filter, UDLD [Practical on All the Protection Concepts]
- Introduction To MST (Multiple Spanning Tree), Intra Region MST and Inter Region MST.
- Introduction to VTP version1 & VTP Version2



## Week(4)

- VTP version 3 with Practical.
- Introduction to ether channels, Requirement, Static, Dynamic (PAGP and LACP)
- Practical of EtherChannel, Layer3 EtherChannel
- Introduction to routing, static routing with packet flow on same and different Network.
- Introduction to EIGRP, Messages in EIGRP, Neighborhood Process

## Week(5)

- EIGRP metric calculation process, DUAL
- Equal and Unequal Cost Load Balancing with practical with offset list
- Route Summarization on EIGRP, what is summarization (basic), EIGRP authentication
- Route Filtering EIGRP (Distribution List: – Standard Acl, Extended Acl, Prefix-List & Route Map)
- Introduction to OSPF, OSPF Neighborhood and Adjacency process

## Week(6)

- Explanation to LSA (type 1 and type 2)
- Inter area OSPF operations, type 3 LSA with practical
- Type 4 and type 5 LSA in OSPF, OSPF Authentication
- OSPF Area types with practical
- OSPF Path Selection (Intra Area Routes, Interarea Routes and Equal Cost Multipathing).

## Week(7)

- Summarization Of Routes and Route Filtering.
- Redistribution (Basic and Advance)
- OSPF Revision and One More Practical Day for the OSPF.
- DHCP and DNS Packet Flow On the basis of Interview Purpose.
- Introduction to BGP, why we use BGP, Single home, multi home, what is public and private AS





## Week(8)

- BGP Session Types, BGP Messages and BGP Neighbor States.
- BGP neighborhood process with practical (EBGP and IBGP)
- Introduction to route advertisement in BGP with Practical
- BGP Path manipulation attributes
- Introduction to multicast, Multicast address range, multicast in LAN (introduction)

## Week(9)

- IGMP Version 2&3 and IGMP snooping.
- Introduction to QOS, Classification, marking.
- Introduction to FHRP, HSRP
- HSRP practical, HSRP preempt feature
- Load Balancing in HSRP, Introduction to GLBP

## Week(10)

- Complete GLBP with practical. Introduction to VRRP with practical.
- NAT on IOS, static, dynamic and PAT with practical, NTP
- PBR with practical
- SNMP and Syslog
- DMVPN Phase1 with IPsec configuration

## Week(11)

- Introduction to IPV6, Address types, you can add it in future
- stateless autoconfig feature in IPv6, Static Routing with IPv6
- Overlay networks, GRE tunnel with practical
- IPSEC basic, ISAKMP, IKEv1, Explain negotiation process and phases (just an overview for the same)
- Wireless (Describe Layer 1 concepts, such as RF power, RSSI, SNR, interference noise, band & channels, & wireless client devices capabilities)

## Week(12)

- Wireless (Describe AP modes and antenna types)
- Describe the components of network security design (Threat Defense, Endpoint Security, NGFW, Network access control with 802.1x, MAB, and Web AUTH)
- AAA
- AAA
- ASA

## Week(13)

- Data plane and management Security
- uRPF
- MPP Copp
- NAT PAT
- SPAN RSPAN

## Week(14)

- IP SLA and Net flow
- MPLS
- QOS
- SD WAN
- PREPARATION FOR INTERVIEW

## Week(15)

- PREPARATION FOR INTERVIEW

## Module-3 Exam

Duration	6 Months
Training Hours Weekday Weekends	2 hrs 3-4 hrs
Training Mode	Online / Offline
Session Type	Personalized
Study Material	Yes



# EMPLOYABILITY SKILLS

PD Classes

Resume Building

Technical Workshops

Linkedin Classes

Q/A Prepration

Hands on Practice with Advance Devices

Mock Interview rounds with HR & Tech Team

Internship Opportunities



# OUR PLACEMENT PARTNERS



Learning



Opportunity



Experience



Career

# ACHIEVEMENTS



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