CCIE HUB

CCNP ENTERPRISE

ENCOR 350-401





TALK TO US :

- +91 96502 72078
- +91 70111 33431
- info@cciehub.in

1.0 Architecture 15%

- 1.1 Explain the different design principles used in an enterprise network
  - 1.1.a High-level enterprise network design such as 2-tier, 3-tier, fabric, and cloud
  - 1.1.b High availability techniques such as redundancy, FHRP, and SSO
- 1.2 Describe wireless network design principles
  - 1.2.a Wireless deployment models (centralized, distributed, controller-less, controller-based, cloud, remote branch)
  - 1.2.b Location services in a WLAN design
  - 1.2.c Client density



- 1.3 Explain the working principles of the Cisco SD-WAN solution
  - 1.3.a SD-WAN control and data planes elements
  - 1.3.b Benefits and limitations of SD-WAN solutions





- 1.4 Explain the working principles of the Cisco SD-Access solution
  - 1.4.a SD-Access control anddataplanes elements
  - 1.4.b Traditional campus interoperating with SD-Access
- 1.5 Interpret wired and wireless QoS configurations
  - 1.5.a QoS components
  - 1.5.b QoS policy
- 1.6 Describe hardware and software switching mechanisms such as CEF, CAM, TCAM, FIB, RIB, and adjacency tables

2.0 VIRTUALIZATION 10%

- 2.1 Describe device virtualization technologies
  - 2.1.a Hypervisor type 1 and 2
  - 2.1.b Virtual machine
  - 2.1.c Virtual switching
- 2.2 Configure and verify data path virtualization technologies
  - 2.3.a LISP
  - 2.3.b VXLAN



3.0 INFRASTRUCTURE (30%)

3.1 Layer 2

- 3.1.a Troubleshoot static and dynamic 802.1q trunking protocols
- 3.1.b Troubleshoot static and dynamic EtherChannels
- 3.1.c Configure and verify common Spanning Tree Protocols (RSTP, MST) and Spanning Tree enhancements such as root guard and BPDU guard



3.2 Layer 3

- 3.2.a Compare routing concepts of EIGRP and OSPF (advanced distance vector vs. link state, load balancing, path selection, path operations, metrics, and area types)
- 3.2.b Configure simple OSPFv2/v3 environments, including multiple normal areas, summarization, and filtering (neighbor adjacency, point-to-point, and broadcast network types, and passive-interface)
- 3.2.c Configure and verify eBGP between directly connected neighbors (best path selection algorithm and neighbor relationships)
- 3.2.d Describe policy-based routing

3.3 Wireless

- 3.3.a Describe Layer 1 concepts, such as RF power, RSSI, SNR, interference, noise, bands, channels, and wireless client devices capabilities
- 3.3.b Describe AP modes and antenna types
- 3.3.c Describe access point discovery and join process (discovery algorithms, WLC selection process)
- 3.3.d Describe the main principles and use cases for Layer 2 and Layer 3 roaming
- 3.3.e Troubleshoot WLAN configuration and wireless client connectivity issues using GUI only
- 3.3.f Describe wireless segmentation with groups, profiles, and tags



3.4 IP Services

- 3.4.a Interpret network time protocol configurations such as NTP and PTP
- 3.4.b Configure NAT/PAT
- 3.4.c Configure first hop redundancy protocols, such as HSRP, VRRP
- 3.4.d Describe multicast protocols, such as RPF check, PIM and IGMP v2/v3

4.0 NETWORK ASSURANCE (15%)

- 4.1 Diagnose network problems using tools such as debugs, conditional debugs, traceroute, ping, SNMP, and syslog
- 4.2 Configure and verify Flexible NetFlow
- 4.3 Configure SPAN/RSPAN/ERSPAN



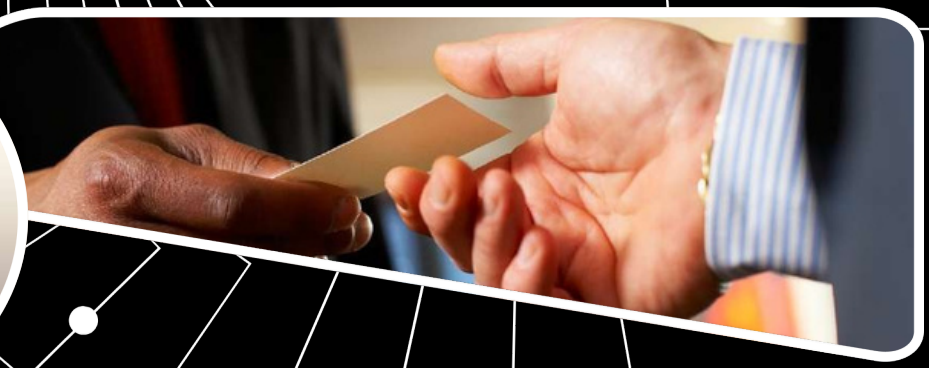


- 4.4 Configure and verify IPSLA
- 4.5 Describe Cisco DNA Center workflows to apply network configuration, monitoring, and management
- 4.6 Configure and verify NETCONF and RESTCONF

5.0 SECURITY (20%)

- 5.1 Configure and verify device access control
  - 5.1.a Linesandlocal user authentication
  - 5.1.b Authentication and authorization using AAA
- 5.2 Configure and verify infrastructure security features
  - 5.2.a ACLs
  - 5.2.b CoPP





- 5.3 Describe REST API security
- 5.4 Configure and verify wireless security features
  - 5.4.a 802.1X
  - 5.4.b WebAuth
  - 5.4.c PSK
  - 5.4.d EAPOL (4-way handshake)

5.5 Describe the components of network security design

- 5.5.a Threat defense
- 5.5.b Endpoint security
- 5.5.c Next-generation firewall
- 5.5.d TrustSec and MACsec
- 5.5.e Network access control with 802.1X, MAB, and WebAuth





6.0 AUTOMATION (10%)

- 6.1 Interpret basic Python components and scripts
- 6.2 Construct valid JSON-encoded files
- 6.3 Describe the high-level principles and benefits of a data modeling language, such as YANG
- 6.4 Describe APIs for Cisco DNA Center and vManage





- 6.5 Interpret REST API response codes and results in payload using Cisco DNA Center and RESTCONF



- 6.6 Construct an EEM applet to automate configuration, troubleshooting, or data collection

- 6.7 Compare agent vs. agentless orchestration tools, such as Chef, Puppet, Ansible, and SaltStack



CCIE HUB

Thank You

ENROLL NOW

TALK TO US :

- +91 96502 72078
- +91 70111 33431
- info@cciehub.in