

**ACCION FORMATIVA: CCNP MODULOS I Y II****CONTENIDOS****MÓDULO 1. ROUTING AVANZADO. CERTIFICACIÓN BSCI DE CISCO****IMPLEMENT EIGRP OPERATIONS.**

- Explain the functions and operations of EIGRP (e.g., DUAL).
- Configure EIGRP routing. (e.g., Stub Routing, authentication, etc.)
- Verify or troubleshoot EIGRP routing configurations.

**IMPLEMENT MULTIAREA OSPF OPERATIONS.**

- Explain the functions and operations of multiarea OSPF.
- Configure multiarea OSPF routing. (e.g., Stub, NSSA, authentication, etc.)
- Verify or troubleshoot multiarea OSPF routing configurations.

**DESCRIBE INTEGRATED IS-IS.**

- Describe the features and benefits of integrated IS-IS.
- Configure and verify integrated IS-IS.

**IMPLEMENT CISCO IOS ROUTING FEATURES.**

- Describe, configure or verify route redistribution between IP routing IGP. (e.g., routemaps, default routes, etc.)
- Describe, configure or verify route filtering (i.e., distribute-lists and passive interfaces).
- Describe and configure DHCP services (e.g., Server, Client, IP helper address)

**IMPLEMENT BGP FOR ENTERPRISE ISP CONNECTIVITY**

- Describe the functions and operations of BGP.
- Configure or verify BGP operation in a non-transit AS (e.g., authentication).
- Configure BGP path selection. (i.e., Local Preference, AS Path, Weight or MED attributes).

**IMPLEMENT MULTICAST FORWARDING.**

- Describe IP Multicast (e.g., Layer-3 to Layer-2 mapping, IGMP, etc.).

- Describe, configure, or verify IP multicast routing (i.e., PIM Sparse-Dense Mode).

### **IMPLEMENT IPV6.**

- Describe IPv6 addressing operations.
- Describe IPv6 interoperation with IPv4.
- Describe, configure or verify OSPF routing with IPv6 addressing.

## **EXAMEN DE CERTIFICACIÓN: 642-812 BUILDING CISCO MULTILAYER SWITCHED NETWORKS (BCMSN)**

### **MÓDULO 2. SWITCHING AVANZADO. CERTIFICACIÓN BCMSN DE CISCO**

#### **IMPLEMENT VLANS.**

- Explain the functions of VLANs in a hierarchical network.
- Configure VLANs (e.g., Native, Default, Static and Access).
- Explain and configure VLAN trunking (i.e., IEEE 802.1Q and ISL).
- Explain and configure VTP.
- Verify or troubleshoot VLAN configurations.

#### **CONDUCT THE OPERATION OF SPANNING TREE PROTOCOLS IN A HIERARCHICAL NETWORK.**

- Explain the functions and operations of the Spanning Tree protocols (i.e., RSTP, PVST, MSTP).
- Configure RSTP (PVST) and MSTP.
- Describe and configure STP security mechanisms (i.e., BPDU Guard, BPDU Filtering, Root Guard).
- Configure and Verify UDLD and Loop Guard.
- Verify or troubleshoot Spanning Tree protocol operations.
- Configure and verify link aggregation using PAgP or LACP.

#### **IMPLEMENT INTER-VLAN ROUTING.**

- Explain and configure Inter-VLAN routing (i.e., SVI and routed ports).
- Explain and enable CEF operation.
- Verify or troubleshoot InterVLAN routing configurations.

#### **IMPLEMENT GATEWAY REDUNDANCY TECHNOLOGIES.**

- Explain the functions and operations of gateway redundancy protocols (i.e., HSRP, VRRP, and GLBP).
- Configure HSRP, VRRP, and GLBP.

- Verify High Availability configurations.

### **DESCRIBE AND CONFIGURE WIRELESS CLIENT ACCESS.**

- Describe the components and operations of WLAN topologies (i.e., AP and Bridge).
- Describe the features of Client Devices, Network Unification, and Mobility Platforms (i.e., CCX, LWAPP).
- Configure a wireless client (i.e., ADU).

### **DESCRIBE AND CONFIGURE SECURITY FEATURES IN A SWITCHED NETWORK.**

- Describe common Layer 2 network attacks (e.g., MAC Flooding, Rogue Devices, VLAN Hopping, DHCP Spoofing, etc.)
- Explain and configure Port Security, 802.1x, VACLs, Private VLANs, DHCP Snooping, and DAI.
- Verify Catalyst switch (IOS-based) security configurations (i.e., Port Security, 802.1x, VACLs, Private VLANs, DHCP Snooping, and DAI).

### **CONFIGURE SUPPORT FOR VOICE.**

- Describe the characteristics of voice in the campus network.
- Describe the functions of Voice VLANs and trust boundaries.
- Configure and verify basic IP Phone support (i.e. Voice VLAN, Trust and CoS options, AutoQoS for voice).