

Cisco Enterprise Network Core Technologies v1.0 (ENCOR 350-401)			OCG	CBT	Hours	Weeks	
1.7 Differentiate hardware and software switching mechanisms							
1.7a	Process and CEF	1				0.5	
1.7b	MAC address table and TCAM	1					
1.7c	FIB vs. RIB	1	<a href="#">Differentiate Between Switching Mechanisms</a>				
3.1 Layer 2							
3.1.c	Configure and verify common Spanning Tree Protocols (RSTP and MST)	2,3,4	<a href="#">Fundaments of STP</a>		1.5	10.25	
			<a href="#">Customize STP</a>		1		
			<a href="#">Optimize with Rapid Spanning Tree</a>		0.5		
			<a href="#">Configure and Verify MST (Multiple STP)</a>		1.5		
3.1.a	Troubleshoot static and dynamic 802.1q trunking protocols	5	<a href="#">Troubleshoot 802.1q</a>		0.75		
3.1.b	Troubleshoot static and dynamic EtherChannels	5	<a href="#">Troubleshoot Etherchannel</a>		1		
2.2 Configure and verify data path virtualization technologies							
2.2a	VRF	6	<a href="#">Virtualization</a>		0.5		
3.2 Layer 3							
3.2.a	Compare routing concepts of EIGRP and OSPF (advanced distance vector vs. linked state, load balancing, path selection, path operations, metrics)	6,7,8,9	<a href="#">EIGRP</a>		1.5	10.25	
			<a href="#">OSPF Concepts</a>		1.5		
3.2.b	Configure and verify simple OSPF environments, including multiple normal areas, summarization, and filtering (neighbor adjacency, point-to-point and broadcast network types, and passive interface)	8,9,10	<a href="#">Configure OSPF</a>		1.5	10	
			<a href="#">OSPF Summarization</a>		1		
			<a href="#">OSPF NSSA</a>		0.5		
			<a href="#">OSPFv3</a>		0.75		
3.2.c	Configure and verify eBGP between directly connected neighbors (best path selection algorithm and neighbor relationships)	11,12	<a href="#">BGP Concepts</a>		1		
			<a href="#">Configure BGP</a>		1.5		
			<a href="#">BGP IPv6</a>		1		
3.4 IPServices							
3.4.d	Describe multicast protocols, such as PIM and IGMP v2/v3	13	<a href="#">Multicast Fundamentals</a>		1		
1.6 Describe concepts of wired and wireless QoS							
1.6.a	QoS components	14	<a href="#">QoS Components</a>		1	10	
1.6.b	QoS policy	14	<a href="#">QoS Deep Dive</a>		0.75		
1.1 Explain the different design principles used in an enterprise network							
1.1.b	High availability techniques such as redundancy, FHRP, and SSO	15, 22	<a href="#">HA Techniques</a>		1	10	
3.4 IP Services							
3.4a	Describe Network Time Protocol (NTP)	15	<a href="#">NTP</a>		0.5		
3.4b	Configure and verify NAT/PAT	15	<a href="#">NAT/PAT</a>		1		
3.4c	Configure first hop redundancy protocols, such as HSRP and VRRP	15	<a href="#">FHRP</a>		1		
2.2 Configure and verify data path virtualization technologies							
			<a href="#">Verify Virtualization Technologies</a>		0.5		
2.2.b	GRE and IPsec tunneling	16	<a href="#">Configure Virtualization Technologies</a>		1		
2.3 Describe network virtualization concepts							
2.3.a	LISP	16	<a href="#">LISP</a>		0.5		
2.3.b	VXLAN	16	<a href="#">VXLAN</a>		0.5		
3.3 Wireless							

3.3.a	Describe Layer 1 concepts, such as RF power, RSSI, SNR, interference noise, band and channels, and wireless client devices capabilities	17	<a href="#">Physical Wireless</a>	0.5
3.3.b	Describe AP modes and antenna types	18	<a href="#">AP Antenna Types</a>	0.5
3.3.c	Describe access point discovery and join process (discovery algorithms, WLC selection process)	18	<a href="#">Wireless Roaming</a>	0.75
3.3.d	Describe the main principles and use cases for Layer 2 and Layer 3 roaming	19		
1.2 Analyze design principles of a WLAN deployment				
1.2.a	Wireless deployment models (centralized, distributed, controller-less, controller based, cloud, remote branch)	18	<a href="#">WLAN Design</a>	0.75
1.2.b	Location services in a WLAN design	19		
5.4 Configure and verify wireless security features				
5.4a	EAP	20		
5.4b	WebAuth	20		
5.4c	PSK	20		
5.5 Describe the components of network security design				
5.5.e	Network access control with 802.1X, MAB, and WebAuth	20, 25	<a href="#">Wireless Security</a>	0.5
3.3 Wireless				
3.3.e	Troubleshoot WLAN configuration and wireless client connectivity issues	21	<a href="#">Troubleshooting WLAN</a>	0.5
1.1 Explain the different design principles used in an enterprise network				
1.1.b	High availability techniques such as redundancy, FHRP, and SSO	15, 22	Covered in HA techniques	
1.1 Explain the different design principles used in an enterprise network				
1.1.a	Enterprise network design such as Tier 2, Tier 3, and Fabric Capacity planning	22	<a href="#">Network Design</a>	1
1.3 Differentiate between on-premises and cloud infrastructure deployments		23	<a href="#">On-Prem/Cloud Deployments</a>	0.75
1.4 Explain the working principles of the Cisco SD-WAN solution			<a href="#">SD-WAN Principles</a>	0.75
1.4.a	SD-WAN control and data planes elements	23	<a href="#">SD-WAN Components</a>	0.75
1.4.b	Traditional WAN and SD-WAN solutions	23	<a href="#">SD-WAN Services</a>	0.75
1.5 Explain the working principles of the Cisco SD-Access solution			<a href="#">SD-Access Principles</a>	0.75
1.5.a	SD-Access control and data planes elements	23	<a href="#">SD-Access Components</a>	0.5
1.5.b	Traditional campus interoperating with SD-Access	23	<a href="#">SD-Access Operation</a>	1
			<a href="#">SD-Access Services</a>	0.75
4.1 Diagnose network problems using tools such as debugs, conditional debugs, trace route, ping, SNMP, and syslog		24	<a href="#">Diagnose Network Problems</a>	1
4.2 Configure and verify device monitoring using syslog for remote logging		24		
4.3 Configure and verify NetFlow and Flexible NetFlow		24	<a href="#">Netflow</a>	0.75
4.4 Configure and verify SPAN/RSPAN/ERSPAN		24	<a href="#">SPAN</a>	0.5
4.5 Configure and verify IPSLA		24	<a href="#">IPSLA</a>	0.5
4.6 Describe Cisco DNA Center workflows to apply network configuration, monitoring, and management		24	<a href="#">DNA Center workflows</a>	0.5
5.5 Describe the components of network security design		25		
5.5.a	Threat defense	25		
5.5.a	Endpoint security	25		
5.5.a	Next-generation firewall	25		
5.5.a	TrustSec, MACsec	25		
5.5.a	Network access control with 802.1X, MAB, and WebAuth	20, 25		
5.1 Configure and verify device access control		26	<a href="#">Device Access Control</a>	1
5.1.a	Lines and password protection	26		
5.1.b	Authentication and authorization using AAA	26		
5.2 Configure and verify infrastructure security features		26		

9.5

10.25

5.2.a	ACLs	26	<a href="#">ACL</a>	0.75
5.2.b	CoPP	26	<a href="#">Control Plane Policing</a>	0.5
2.1 Describe device virtualization technologies				
2.1.a	Hypervisor type 1 and 2	27		
2.1.b	Virtual machine	27		
2.1.c	Virtual switching	27	<a href="#">Device Virtualization</a>	0.5
6.2 Construct valid JSON encoded file		28	<a href="#">JSON</a>	1.5
6.3 Describe the high-level principles and benefits of a data modeling language, such as YANG		28	<a href="#">YANG</a>	0.5
6.4 Describe APIs for Cisco DNA Center and vManage		28	<a href="#">vManage</a>	0.5
6.5 Interpret REST API response codes and results in payload using Cisco DNA Center and RESTCONF		28	<a href="#">DNA Center</a>	0.5
4.7 Configure and verify NETCONF and RESTCONF		28	<a href="#">NETCONF/RESTCONF</a>	0.5
5.3 Describe REST API security		28	<a href="#">REST API Security</a>	0.5
6.6 Construct EEM applet to automate configuration, troubleshooting, or data collection		29	<a href="#">Extended Event Manager</a>	0.5
6.7 Compare agent vs. agentless orchestration tools, such as Chef, Puppet, Ansible, and SaltStack		29	<a href="#">Orchestration Tools</a>	1
6.1 Interpret basic Python components and scripts		29	<a href="#">Python Scripts</a>	1