

MEF Blueprint MEF-TNF v.1.2		Forms A&B, August 2017				
Section/Objective		Items Per Exam	Item %	References	Complexity Level	
1	SDN	13	24.53%	For Domain 1: SDN	Cognitive Complexity Level	
1.01	Explain the different definitions of SDN today	1	1.89%	Linux Foundation Website, Open Networking Website, https://www.opennetworking.org/sdn-resources/sdn-definition ; https://www.opennetworking.org/sdn-resources/sdn-definition	Remember	
1.02	Explain the key characteristics of an SDN solution	2	3.77%	https://www.opennetworking.org/sdn-resources/sdn-definition ; Wikipedia SDN entry; SDN architecture, ONF website; SDN architecture, ONF website	Understand/Apply	
1.03	Compare the different characteristics of an SDN solution to those of its network predecessor	2	3.77%	http://www.opennetworking.org ; https://blog.ecitele.com/do-you-need-an-sdn-controller-when-you-already-have-an-nms ; Wikipedia entry for SDN	Understand/Apply/Remember	
1.04	Explain the major benefits of an SDN solution	2	3.77%	https://www.opennetworking.org/sdn-resources/sdn-definition ; Linux Foundation Website; RFC 6241 section 5.1; From <i>Software Defined Networks</i> , 2nd ed., Goransen & Black	Understand/Apply/Remember	
1.05	Explain the major challenges presented by the move to an SDN network	2	3.77%	CAPEX is capital expenditures, I.E. upfront costs. OPEX is Operating Expenditures, I.E. maintenance cost.; Wikipedia entry for SDN.	Understand/Apply	
1.06	Given a scenario, explain how SDN would be implemented to leverage its benefits	2	3.77%	SDN entry for applications under Wikipedia; SDN security framework document	Understand/Apply	
1.07	Explain how the various SDN technologies (e.g., protocols, APIs, controllers, switches) relate to each other	2	3.77%	http://searchsdn.techtarget.com/tip/REST-APIs-in-SDN-An-introduction-for-network-engineers ; https://docs.microsoft.com/en-us/windows-hardware/drivers/network/network-virtualization-using-generic-routing-encapsulation--nvgre--task-offload ; http://showiprotocols.blogspot.com/2014/06/northbound-southbound-and-eastwestbound.html ; Open Network Foundation website; SDN book, Goranson & Black, page 43	Understand/Apply	

Section/Objective		Items Per Exam	Item %	References	Complexity Level
2	NFV	13	24.53%	For Domain 2: NFV	
2.01	Explain the key definitions of NFV today	1	1.89%	https://transition.fcc.gov/Reports/tcom1996.pdf ; https://www.sdxcentral.com/nfv/definitions/nfv-mano/ ; Network Function Virtualization book, Ken Gray and Thomas Nadeau, p.4	Understand/Apply
2.02	Explain the key characteristics of an NFV solution	2	3.77%	Foundations of Modern Networking, Chapter 7, Stallings, page 177-178; Foundations of Modern Networking, Stallings, page 189	Understand/Apply
2.03	Compare the different characteristics of an NFV solution to those of its network predecessor	2	3.77%	Network function Virtualization book, Ken Gray and thomas Nadeau, page 22-24; Understanding OPNFV, new book, page 17-24. Amar Kapadia & Nicholas Chase	Understand/Apply
2.04	Explain the major benefits of an NFV solution	2	3.77%	Foundations of Modern Networking, chapter 7.4 NFV benefits, page 191; Network Functions Virtualisation (NFV); Proof of Concepts; Framework, page 7; Foundations of Modern Networking, Stallings, p.199; "Integrating SDN & NFV in Future Networks", p. 169, in Virtualized Software Defined Networks and Services, Duan and Toy; NFV Security Expert Group Document, cited in Understanding OPNFV, page 25; Understanding OPNFV, page 27	Understand/apply
2.05	Explain the major challenges presented by the move to an NFV solution	2	3.77%	NFV White Paper 3, page 13 of 20; NFV book, Gray and Nadeau, chapter 3, page 67; Understanding OPNFV, page 27; Understanding OPNFV, page 80; 95; 107; ETSI NFV Architecture document, chapter 8	Understand/apply; Analyze/Evaluate
2.06	Given a scenario, explain how NFV would be applied to leverage its benefits	2	3.77%	Understanding OPNFV, pp 119-120; ETSI use case document http://www.etsi.org/deliver/etsi_gs/NFV/001_099/001/01.01.01_60/gs_NFV001v010101p.pdf page 10; NFV use case document (http://www.etsi.org/deliver/etsi_gs/NFV/001_099/001/01.01.01_60/gs_NFV001v010101p.pdf) page 15; ETSI use cases document (http://www.etsi.org/deliver/etsi_gs/NFV/001_099/001/01.01.01_60/gs_NFV001v010101p.pdf), page 21; ETSI use cases (http://www.etsi.org/deliver/etsi_gs/NFV/001_099/001/01.01.01_60/gs_NFV001v010101p.pdf), page 36;	Understand/apply; Analyze/Evaluate
2.07	Explain how the various NFV technologies (e.g., virtualization, tools, architecture) relate to each other	2	3.77%	Foundations of Modern Networking, page 180; NFV White paper 3, page 5 of 20; NFV white paper, volume 3, page 3 15 of 20; NFV White Paper, page 16 of 20; Understanding OPNFV, page 23, NFV architecture	Understand/apply; Analyze/Evaluate

Section/Objective		Items Per Exam	Item %	References	Complexity Level
3	LSO/Orchestration	9	16.98%	For Domain 3: LSO/Orchestration	
3.01	Explain the key definitions of LSO/orchestration today	1	1.89%	MEF 55, on MEF Wiki; Mehmet & Toy, page 186	Remember
3.02	Explain the key characteristics of an orchestrated solution	1	1.89%	MEF LSO document ("LSO Service and Orchestration), cited in Virtualized Software Defined Networks and services, , Duan & Toy, page 289; MEF Third Network LSO document, page 7 of 18; Third Network LSO document, feb 2015, page 7 of 18; Third Network LSO vision, February 2015, page 8 or 18	Understand/Apply
3.03	Explain the major benefits of an orchestrated solution	1	1.89%	Third Network LSO document, feb 2015, page 7 of 18; Third Network LSO vision, February 2015, page 8 or 18	Understand/Apply
3.04	Explain the major challenges presented by the move to an orchestrated solution	2	3.77%	https://blog.gruntwork.io/why-we-use-terraform-and-not-chef-puppet-ansible-saltstack-or-cloudformation-7989dad2865c ; https://puppet.com ; LSO third Network 2015, page 14-15	Understand/Apply; Analyze/Evaluate
3.05	Given a scenario, explain how LSO/orchestration would be implemented to leverage its benefits	2	3.77%	https://www.mef.net/Assets/Technical_Specifications/PDF/MEF_55.pdf ; https://www.mef.net/Assets/Technical_Specifications/PDF/MEF_55.pdf ; MEF Third Network Vision document, page 12, 2014; Third Network LSO diagram and document, 2015, page 6	Understand/Apply
3.06	Explain how the various LSO/orchestration technologies (e.g., Tosca, YANG, PNDA, information models, tools) relate to each other	2	3.77%	Wikipedia; https://www.oasis-open.org/committees/tc_home.php?wg_abbrev=tosca#announcements ;	Understand/Apply
4	Carrier-based connectivity services (L1, L2, L3)	10	18.87%	For Domain 4: Connectivity Services	
4.01	Explain the major building blocks of carrier-based connectivity services	1	1.89%	MEF 10.3 Section 7 (include terminology table), Section 8; MEF 26.2 (Section 8.2, 8.8); MEF 10.3; MEF 10.3 Section 7 (note that MEF 10.3 includes the word "physical demarcation" but the word "physical" is being removed in MEF 10.4 so it was not included in this definition in anticipation of that. this does not create any ambiguity with respect to the current definition)	Remember
4.02	Explain the roles of the organizations/actors involved in buying and selling carrier-based connectivity services	1	1.89%	MEF 26.2, Section 8.2; MEF 6.2 Sections 8 and 10;	Understand/Apply
4.03	Compare the different characteristics of a carrier-based connectivity solution to those of its predecessor	2	3.77%	MEF 6.2, Section 8 and 10; MEF 51, Section 4 and 7; MEF 10.3, Section 8.1; MEF 51, Section 7; MEF 6.2, Section 8, 10.1, and 10.3;	Understand/Apply
4.04	Explain the major benefits of a carrier-based connectivity services solution	2	3.77%	What is Carrier Ethernet? Introduction to carrier Ethernet (Keiffer), page 10; MEF 6.2 in general but Section 4 and 7 provide the background; MEF 10.3 Section 8 and MEF 23.2, Section 8.1; MEF 6.2 Sections 8 and 10;	Understand/Apply
4.05	Explain the major challenges presented in deploying a carrier-based connectivity solution	2	3.77%	Introduction to Carrier Ethernet, Keiffer, page 75; MEF 26.2, Section 8.2;	Understand/Apply
4.06	Given a scenario, explain how a carrier-based connectivity solution would be implemented to leverage its benefits	2	3.77%	MEF 6.2; https://www.mef.net/Assets/White_Papers/CE_2_0-Service_Life_Cycle_White_Paper.pdf ; MEF 6.2 Sections 7, 8, 9, and 10; MEF 26.2, Section 8.2	Understand/Apply

Section/Objective		Items Per Exam	Item %	References	Complexity Level
5	The Third Network Vision	8	15.09%	For Domain 5: The Third Network Vision	
5.01	Explain the key characteristics (i.e., agile, assured, and orchestrated) of the Third Network	1	1.89%	MEF 55; https://wiki.mef.net/display/CESG/Third+Network+Service ; MEF 53; MEF Document An Industry Initiative for Third Generation Network and Services November 2016; An Industry Initiative for Third Generation Network and Services November 2016 page 9; MEF 55, page 1;	Remember
5.02	Explain the predecessors to the Third Network (i.e., the Internet, Carrier Ethernet 2.0)	1	1.89%	An Industry Initiative for Third Generation Network and Services November 2016, page 3; John Wiley SD-WAN book, page 15	Understand/Apply
5.03	Explain the major benefits promised by a Third Network connectivity/functional service	2	3.77%	An Industry Initiative for Third Generation Network and Services November 2016, page 3. An Industry Initiative for Third Generation Network and Services November 2016, page 11; An Industry Initiative for Third Generation Network and Services November 2016, page 20; John Wiley SD-WAN book, page 24	Understand/Apply
5.04	Explain the major challenges in deploying a Third Network connectivity/functional service	2	3.77%	John Wiley book, SD-WAN's, page 11, security perimeters; http://www.telecomramblings.com/2014/09/third-network/ blog arguing for Third Network	Understand/Apply
5.05	Given a scenario, explain how combinations of SDN, NFV, and LSO/orchestration are leveraged to form Third Network connectivity/functional solutions	2	3.77%	MEF SD-WAN Managed Service paper, version 1, page of 9; MEF SD-WAN managed service paper DRAFT 1, page 5 of 9; Foundations of Modern Networking, William Stallings, page 70	Analyze/Evaluate
TOTAL		53	100.00%		