SRM Institute of Science and Technology
College of Engineering and Technology
DEPARTMENT OF ECE

SRM Nagar, Kattankulathur – 603203, Chengalpattu District, Tamilnadu

Academic Year: 2024-25 (ODD)

Test: CLAT-2 **Date:** 23/09/24

Course Code & Title: 18ECE320T/ Software Defined Networks **Duration:** 10.00-11.30 am

Year & Sem: IV year / VII Sem **Max. Marks:** 50

Course Articulation Matrix:

	18ECE320T/ Software Defined Networks	PROGRAM OUTCOMES												PSO		
CO	COURSE OUTCOMES	1	2	3	4	5	6	7	8	9	10	11	12	1	2	3
1	Express the SDN architecture and its benefits	3	-	-	-	2	-	-	-	-	-	-	-	3	-	-
2	Analyze SDN controllers and Devices functionality and architecture	3	-	2	-	-	-	-	-	-	-	-	-	2	-	-
3	Evaluate the programming elements of SDN and OpenFlow	3	-	-	-	2	-	-	-	-	-	-	-	2	-	-
4	Compile SDN Application and Use Case	3	-	2	-	-	-	-	-	-	-	-	-	-	2	-
5	Implement SDN for Mobile Networks	3	-	2	-	-	-	-	-	-	-	-	-	-	-	1

Q. No	PART –A (10X1=10 Marks)	Marks	BL	CO	PO
1	A set of packets transferred from one network endpoint to another endpoint is described as a A) Throughput B) Flow C) Bitrate D) Entry	1	1	2	1
2	Open vSwitch operates as a virtual switch within hypervisor environments, allowing it to connect A) Virtual machines B) Stack C) Storage D) Database	1	1	2	1
3	Which SDN device is build using extensible set of Ruby scripts A) Ryu B) Trema C) Nicira D) Floodlight	1	1	2	1
4	Plexxi Systems are designed based on the concept of A) Affinity networking B) Explicit Route C) Asynchronous application D) Pre-configured LSPs	1	1	2	1
5	An open-source in-memory data grid that offers flexible deployment options and robust capabilities for storing, managing, and processing data is called A) Marshaling B) Affinity link C) Infinispan D) Bin-packing	1	1	2	1
6.	When the controller has a data packet to forward out through the switch, it uses the OpenFlow message called A) FLOW_MOD B) ECHO C) PACKET_OUT D) FLOW_OUT	1	1	3	1
7.	The instruction that is used the switch to forward the packet back out of the port on which it arrived, A) LOOP_PORT B) OUT_PORT C) IN_FLOW D) IN_PORT	1	1	3	1
8.	The interface definition language that is used to define and create services for numerous languages is known as A) Thrift B) JSON C) OpenStack D) Puppet	1	1	3	1
9.	'SysUpTime' is a management object that indicates A) Systems name B) Length of time C) Interface duration D) Up-counter timing	1	1	3	1
10.	Which language is called as human-readable XML A) Thrift B) JSON C) OpenStack D) Puppet	1	1	3	1

		PART –B (4X10=40 Marks)				
		PART –B1(2*4=8) Instruction: Answer any two				
11.	What are the key characteristics that distinguish a proactive flow from a reactive flow?	4	2	2	1
12	Briefly describe the difference between an SDN switch from a traditional hardware switch?.	4	2	2	1
13.	Evaluate the design principles and technical capabilities of Juniper Networks Virtual Network System (VNS) SDN controller. Discuss how VNS enhances network agility, security, and scalability?	4	2	2	1
	PART –B2(2*4=8) Instruction: Answer any two				
14.	Explain the various components involved in open flow v 1.0 switch with its functions?	4	2	3	1
15.	List out the various benefits of modern orchestration?	4	2	3	1
16.	With an example illustrate how the Controller programs a flow-table?	4	2	3	1
	PART –C (2X12=24 Marks)				
17.	a. Enumerate the fundamental characteristics of SDN? Briefly Illustrate the various operations involved in a SDN?	(6+6=12)	3	2	3
	(OR)				
	b. Illustrate how virtual switch is established using Nicira controller? Also give brief description on NOX controller.	(6+6=12)	3	2	3
18.	a. Demonstrate in detail on how the packet matching and forwarding process in performed in a SDN switch? Explain on the various message exchange between controller and switch using overflow?	(6+6=12)	3	3	1
	(OR)				
	b. Elaborate on how the publish and subscribe interface model is used in message exchanging? Describe the key characteristics of POX?	(6+6=12)	3	3	1

Course Outcome (CO) and Bloom's level (BL) Coverage in Questions

☐CO Coverage (%)   ☐BL Coverage (%)
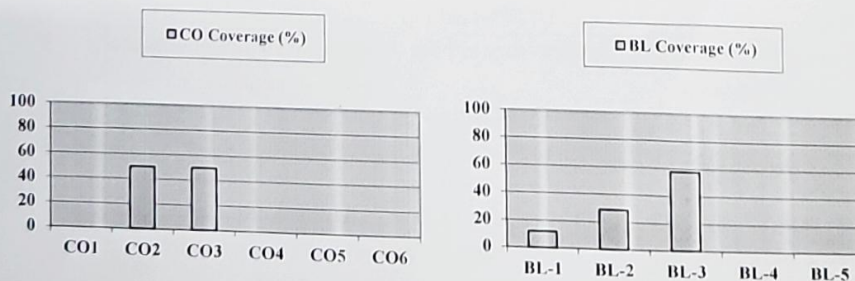
Approved by the Course Coordinator

Signature of the Question paper setter