Reg. No.															

B.Tech. DEGREE EXAMINATION, DECEMBER 2023
Sixth & Seventh Semester

18CSE456T – SOFTWARE DEFINED NETWORKS
(For the candidates admitted from the academic year 2020-2021 & 2021-2022)

Note:
(i) **Part - A** should be answered in OMR sheet within first 40 minutes and OMR sheet should be handed over to hall invigilator at the end of 40th minute.
(ii) **Part - B & Part - C** should be answered in answer booklet.

Time: 3 hours Max. Marks: 100

PART – A (20 × 1 = 20 Marks)
Answer **ALL** Questions

	Marks	BL	CO	PO
1. The following are the API's used by SDN, except (A) North bound API (B) South bound API (C) Win stock API (D) Neutron API	1	2	2	1
2. Which of the following is the one value add that SDN provide for NFV? (A) Storage allocation (B) Service chaining (C) Alarms (D) Automated network management	1	2	3	2
3. Which of the following concept brought SDN to 54 technology (A) NFVO (B) Network slicing (C) Programmability (D) Virtualization	1	3	2	1
4. _____ supports hybrid cloud and used to transmit LAN packets or overlay packets (A) Overlay network (B) SD-WAN (C) Underlay network (D) MPLS	1	3	1	2
5. The type of datacenter, which google deploys is (A) Open SDN (B) Overlay (C) Outer layer (D) API	1	2	2	2
6. _____ is an approach to network design and functionality based on programmatically modify the behaviour of network. (A) SDN (B) NFV (C) API (D) NVF	1	2	2	1
7. SDN enabled _____ plane allows the underlying infrastructure to be abstracted. (A) Data (B) Control (C) MAC (D) Data and MAC	1	2	3	2
8. _____ determines how and where packets are forwarded routing, traffic engineering and firewall. (A) Data plane (B) Control and data plane (C) MAC (D) Control plane	1	3	4	2

9. _____ started SDN movement. 1 3 2 4
(A) Network open foundation (B) Open source foundation
(C) Open network foundation (D) Network source foundation

10. _____ control plane is decoupled from the physical infrastructure to provide centralized global view 1 3 2 2
(A) Distributed (B) Centralized
(C) Fully distributed (D) Decentralized

11. _____ establish communication tunnels among themselves using general IP addressing. 1 3 4 2
(A) Virtual switches (B) Open switches
(C) Open flow (D) Open stack

12. _____ inject traffic into the virtual network and receive traffic. 1 2 4 2
(A) Virtualizations (B) Network function
(C) SDN (D) Hypervisor

13. For control cluster, how many number of controllers are used to load of the management of large number of devices? 1 3 4 3
(A) 0 (B) 1
(C) 2 (D) 3

14. _____ provides an open interface on the controller to allow for automated control of the SDN network. 1 3 4 2
(A) Centralized software based controller (B) Fully centralized controller
(C) Distributed software based controller (D) Fully distributed software based controller

15. In overlay controller _____ acts as end points for tunnels to carry traffic across physical network. 1 3 2 4
(A) Virtual switches (B) Open switches
(C) Edge switches (D) Stack switches

16. _____ is a protocol developed in IETF working group and became a standard in 2006. 1 2 4 3
(A) NETCONF (B) SETCONF
(C) MPLS (D) BGP

17. BGP information provides the topology between devices implementing the EGP, referred as _____ topology. 1 3 4 4
(A) IPv6 (B) IPv4
(C) IPv5 (D) IPv3

18. _____ is densely packed racks of high powered computers and storage has been around for decades. 1 4 4 3
(A) SDN ODN (B) SDN NOX
(C) SDN POX (D) SDN datacenter

19.	SDN operating system for white box is (A) ONFV (B) ONOS (C) ONVF (D) ONOF	1	3	5	4
20.	_____ focuses on single control protocol or mandating that network devices conform to that protocol. (A) POX (B) POS (C) Open day light (D) Flood light	1	3	5	4

PART – B (5 × 4 = 20 Marks)
Answer **ANY FIVE** Questions

		Marks	BL	CO	PO
21.	Organize forwarding rules employed in SDN architecture.	4	3	1	1
22.	Write short notes on plane separation in SDN.	4	1	2	1
23.	Describe SDN on Raspberry Pi.	4	2	1	2
24.	How multi-latency in SDN datacenter is handled?	4	4	3	4
25.	Summarize tunneling in SDN.	4	5	4	3
26.	Demonstrate white box switching with a neat sketch.	4	4	3	2
27.	Describe open source SDN applications.	4	5	2	4

PART – C (5 × 12 = 60 Marks)
Answer **ALL** Questions

		Marks	BL	CO	PO
28. a.	Illustrate control, data and management planes of SDN.	12	3	1	2
	(OR)				
b.	With a neat sketch, describe the major functional blocks that a packet will transit as it is being forwarded by the switch.	12	4	2	1
29. a.	Demonstrate the operation overview of SDN in detail.	12	4	1	2
	(OR)				
b.	Give the working of SDN controller ONOS in detail.	12	3	1	1
30. a.	With proper justifications explain potential draw backs of OPEN SDN.	12	5	3	2
	(OR)				
b.	Relate with a suitable example, the traffic engineering for service providers.	12	4	3	1
31. a.	Demonstrate in detail about MPLS protocols for SDN.	12	3	4	3
	(OR)				

b.	Compare SND Vs R2P overlay networks.	12	2	3	4
32. a.	With a neat sketch explain open stack deployment and orchestration.	12	4	4	3
	(OR)				
b.	Express generic network infrastructure threats in SDN security.	12	2	3	4

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