SRM Institute of Science and Technology
College of Engineering and Technology
School of Computing

Mode of Exam
OFFLINE

DEPARTMENT OF COMPUTING TECHNOLOGIES

SRM Nagar, Kattankulathur – 603203, Chengalpattu District, Tamilnadu

Academic Year: 2022-2023 (ODD)

SET 1

ANSWER KEY

Test: CLAT-3 **Date: 19-11-2022**
Course Code & Title: 18CSE453T & Network Routing Algorithms **Duration:** 2 Hour
Year & Sem: III &V **Max. Marks:** 50

Course Articulation Matrix: ***(to be placed)***

S.NO	CO/PO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	PSO3
1	CO1	3	2	-	-	1	-	-	-	-	2	-	3		-	-
2	C02	3	3	2	2	1	-	-	-	-	-	1	3	-	-	-
3	CO3	3	3	1	2	2	-	-	-	2	-	1	3	-	-	-
4	CO4	3	3	3	3	3	1	-	2	2	-	-	3	-	-	-
5	CO5	3	3	3	3	2	-	-	-	2	-	-	3	-	-	-
6	CO6	3	3	3	2	2	1	-	-	-	-	-	3	-	-	-

Part - A
(20x 1 = 20 Marks)

Instructions: Answer All 20

Q. No	Question	Marks	BL	CO	PO	PI Code
1	After create an internetwork by connecting your WANs and LANs to a router, you'll need to configure? A. Physical network address. B. Subnet address. C. Logical network addresses. D. Default gateway address. Answer : C	1	2	4	2	2.6.3
2	Link state routing protocol using ___ algorithm to update routing table. A. Dijkstra's Algorithm B. bellman short path algorithm C. kruskal's algorithm D. Depth-First Search Answer :A	1	2	4	1	1.6.1
3	How often does a RIPv1 router broadcast its routing table by default? A. Every 30 seconds B. Every 60 seconds C. Every 90 seconds D. RIPv1 does not broadcast periodically Answer :A	1	2	4	1	1.6.1
4	You type debug IP rip into your router's console and see that 172.16.10.0 is being advertised to you with a metric of 18. What's the meaning? A. The route is 18 hops away Debug IP rip B. The route has a delay of 16 microseconds Debug IP route C. The route is inaccessible D. The route is queued at 18 messages a second Answer :C	1	2	4	2	2.6.3
5	Which protocol was originally developed to provide a loop-free method of exchanging routing information between autonomous systems? A. OSPF B. EIGRP C. BGP D. RIP Answer: C	1	2	4	1	1.6.1
6	In OSPF, which protocol is used to discover neighbour routers automatically? A. Hello protocol B. Link state protocol C. Error-correction protocol D. Routing information protocol Answer: A	1	1	4	1	1.6.1
7	From the below list, Which is not a Router types? A. Area-Border Routers B. External Routers C. Backbone Routers D. AS Boundary Routers Answer: B	1	1	4	1	1.6.1
8	IGRP packet is fairly compact consisting of _____header field. A. 12-byte B. 14-byte C. 16-byte D. 18-byte Answer :A	1	1	4	1	1.6.1
9	EIGRP includes a _____for neighbour discovery and recovery. A. IGRP Protocol B. RIP Protocol C. BGP Protocol D. Hello Protocol Answer: D	1	1	4	1	1.6.1
10	Which type of OSPF network will elect a backup designated router? i. Broadcast multi-access ii. Non-broadcast multi-access iii. Point-to-point iv. Broadcast multipoint A. i and ii B. iii and iv C. iii D. iv Answer : A	1	2	4	2	2.6.3
11	From the below list find out Challenges of routing protocols in ad hoc networks. i. Movement of nodes ii. Bandwidth is a scarce resource iii. Shared broadcast radio channel iv. Erroneous transmission medium A. i	1	2	5	2	2.6.3

	B. i, ii C. i,ii,iii D. I,ii,iii,iv Answer : D					
12	Identify the network for which the following statement is most suitable."The bandwidth reservation requires complex medium access control protocols" A. Cellular network B. Adhoc wireless network C. Fixed line network D. Bluetooth network Answer : B	1	2	5	2	2.6.3
13	Wireless routing protocol is an example of _____ . A. Proactive routing protocol B. Reactive routing protocol C. Hybrid routing protocol D. Source initiated Routing Protocol Answer : A	1	1	5	1	1.6.1
14	What is the advantage of DSR has over DSDV due to its on-demand nature? A. New link is generated B. Routing adapts to load C. Sequence number is updated D. No New link is generated Answer : B	1	1	5	1	1.6.1
15	In Hierarchical routing, the routers are divided into _____ A. zones B. Cells C. Regions D. Area Answer : C	1	1	5	1	1.6.1
16	Which is not a type of Adhoc Wireless Routing Protocol Based on routing information? A. Proactive Routing Protocol B. Hybrid Routing Protocol C. Power Aware Routing Protocol D. Reactive Routing Protocol Answer : C	1	2	5	2	2.6.3
17	From the below options select the protocol it is free from loops, deadlock, and packet duplicates A. Associativity Based Routing B. Dynamic Source Routing Protocol C. Ad hoc on-demand distance vector routing protocol D. Dynamic source routing protocol Answer : A	1	2	5	2	2.6.3
18	Which of the following is not temporal information for routing type protocols? A. FORP B. RABR C. LBR D. FSR Answer: D	1	1	5	1	1.6.1
19	Public Switch Telephone Network was basically developed and engineered for giving _____to the wire line subscribers A. Voice connectivity B. Video Connectivity C. Voice & Video Connectivity D. Packet Connectivity Answer :A	1	1	6	1	1.6.1
20	How many cluster head elected in Cluster head gateway switch routing protocol? A. 1 B. 2 C. 3 D. 4 Answer:A	1	1	6	1	1.6.1

SRM Institute of Science and Technology
College of Engineering and Technology
School of Computing

Mode of Exam
OFFLINE

DEPARTMENT OF COMPUTING TECHNOLOGIES

SRM Nagar, Kattankulathur – 603203, Chengalpattu District, Tamilnadu

Academic Year: 2022-2023 (ODD)

SET 1

Test: CLAT-3 **Date: 19-11-2022**
Course Code & Title: 18CSE453T & Network Routing Algorithms **Duration:** 2 Hour
Year & Sem: III &V **Max. Marks:** 50

Course Articulation Matrix: ***(to be placed)***

S.NO	CO/PO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	PSO3
1	CO1	3	2	-	-	1	-	-	-	-	2	-	3		-	-
2	C02	3	3	2	2	1	-	-	-	-	-	1	3	-	-	-
3	CO3	3	3	1	2	2	-	-	-	2	-	1	3	-	-	-
4	CO4	3	3	3	3	3	1	-	2	2	-	-	3	-	-	-
5	CO5	3	3	3	3	2	-	-	-	2	-	-	3	-	-	-
6	CO6	3	3	3	2	2	1	-	-	-	-	-	3	-	-	-

Part – B
(2x5 = 10 Marks)

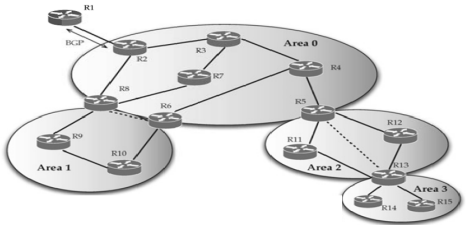
21 Compare RIPv1, RIPv2, IGRP and EIGRP routing protocol.

TABLE

Protocol	RIPv1	RIPv2	IGRP	EIGRP
Address	IPv4	IPv4	IPv4	IPv4
Metric	Hop	Hop	Composite	Composite
Information	Unreliable,	unreliable,	Unreliable,	Reliable,
Communica tion	broadcast	multicast	multicast	multicast
Routing	Bellman	Bellman	Bellman	Diffusing
Computation	Ford	Ford	Ford	computation
VLSM/CIDR	No	Yes	No	Yes
Remark	Slow conver-	Slow conver-	Slow conver-	Fast, loop-
	gence; split	gence; split	gence; split	free conver-
	horizon	horizon	horizon	gence; chatty protocol

(OR)

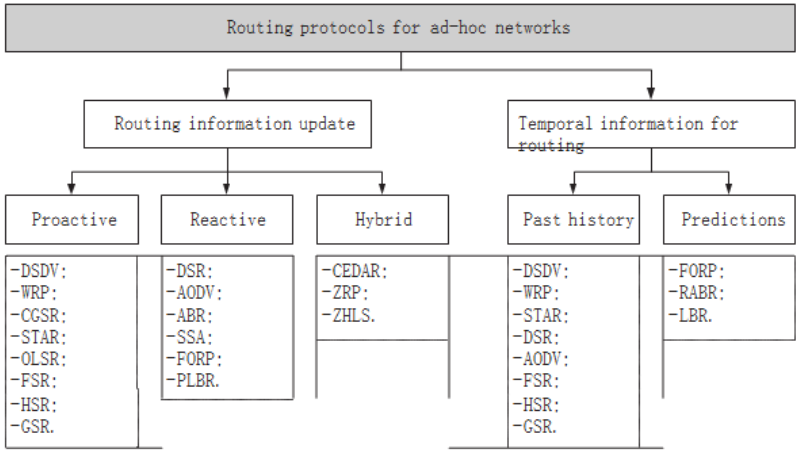
22	Classify routers in the diagram below based on their location and functionality.



R2 - AS Boundary Router **R5, R6, R8, R13 - Area Border Routers**

R3, R4, R7 - Core Routers **R9, R10, R11, R12, R14, R15 - Interior Routers**

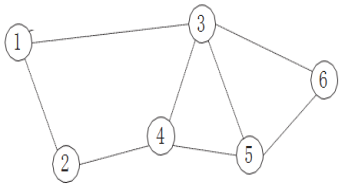
23	Classify various routing protocols in adhoc networks.

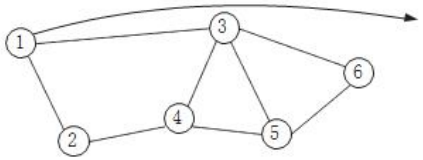


Classification of routing protocols

(OR)

24	Construct a routing table for the following graph using the Destination sequenced distance vector routing protocol from source node 1.





Dest	Next	Dist
6	3	2
5	3	2
4	2	2

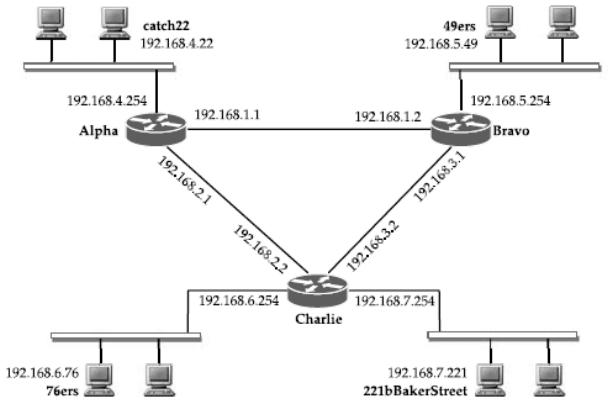
Part – C

(2x10 = 20 Marks)

25	What are routing protocols used distance vector routing algorithm? Explain all the protocol with necessary diagram. • RIP, (3 marks) • IGRP (3 marks) • EIGRP. (4 marks)

(OR)

26	Create routing table for each router(Alpha, Bravo,Charlie) in the below router network.



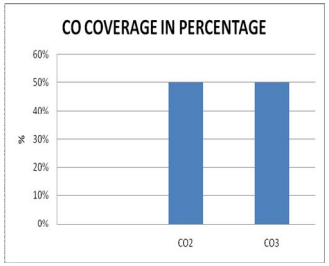
Routing table at each router for the network

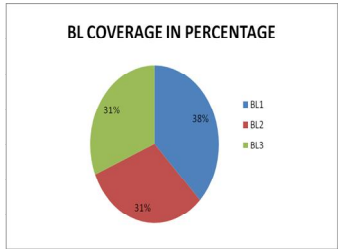
Router: Alpha		Router: Bravo		Router: Charlie	
Network/Mask	Next Hop	Network/Mask	Next Hop	Network/Mask	Next Hop
192.168.1.0/24	direct	192.168.1.0/24	direct	192.168.1.0/24	192.168.2.1
192.168.2.0/24	direct	192.168.2.0/24	192.168.1.1	192.168.2.0/24	direct
192.168.3.0/24	192.168.1.2	192.168.3.0/24	direct	192.168.3.0/24	direct
192.168.4.0/24	direct	192.168.4.0/24	192.168.1.1	192.168.4.0/24	192.168.2.1
192.168.5.0/24	192.168.1.2	192.168.5.0/24	direct	192.168.5.0/24	192.168.3.1
192.168.6.0/24	192.168.2.2	192.168.6.0/24	192.168.3.2	192.168.6.0/24	direct
192.168.7.0/24	192.168.2.2	192.168.7.0/24	192.168.3.2	192.168.7.0/24	direct

27	Explain the following Reactive routing protocols with example i. Dynamic source routing protocol ii. Ad hoc on-demand distance vector routing protocol DSR – 5 Marks AODV – 5 Marks
	(OR)
28	Elucidate about power-aware routing protocols and its Routing Metrics. • Minimal Energy Consumption per Packet • Maximize Network Connectivity • Minimum Variance in Node Power Levels • Minimum Cost per Packet • Minimize Maximum Node Cost

***Performance Indicators are available separately for Computer Science and Engineering in AICTE examination reforms policy.**

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





Approved by the Audit Professor/Course Coordinator