

	<b>RV COLLEGE OF ENGINEERING®</b> <b>Department of Computer Science and Engineering</b> <b>IMPROVEMENT CIE : SCHEME</b>		
<b>Course : (Code)</b>	<b>COMPUTER NETWORKS (CY245AT))</b>	<b>Semester : IV</b>	
<b>Date : June 2025</b>	<b>Duration : 120 minutes</b>	<b>Staff : CSE/ISE/AI-ML</b>	
<b>Name :</b>	<b>USN :</b>	<b>Section :</b>	<b>CSE/ISE/AI-ML</b>

**Answer all questions**

Sl.no	Questions	Marks	L1-L6	CO
1.	<i>Loss of important data or degraded service quality</i>	1	2	2
2.	<i>RSVP (Resource Reservation Protocol)</i>	1	2	3
3.	<b>Private IP addresses</b> are IP addresses reserved for use within private networks (like home, office, or enterprise networks).  <i>Range:</i> 10.0.0.0 – 10.255.255.255 172.16.0.0 – 172.31.255.255 192.168.0.0 – 192.168.255.255	2	3	3
4.	<b>IANA/ICANN</b>	1	3	3
5.	<i>172.16.30.56</i>	1	3	3
6.	<i>In an IPv4 packet, an Internet Header Length (IHL) value greater than 5 indicates that the IPv4 header contains optional fields beyond the minimum 20 bytes. The IHL field specifies the header length in 32-bit words, and a value of 5 corresponds to the minimum header size of 20 bytes.</i>	1	2	2
7.	<i>Use <b>Class C</b> with subnet mask <b>255.255.255.224</b> (/27) to create at least 5 subnets with at least 16 hosts each.</i>	2	4	5
8.	<i>FE80::202:B3FF:FE1E:8329</i>	1	4	5

**Part B**

Sl. no	Questions	Marks	L1 - L6	CO
1 a.	Differences between leaky bucket algorithm and token bucket algorithm	5	2	1
b.	<b>(i) 135.46.63.10</b> The first 22 bits of 135.46.63.10 is network address, is 135.46.60.0. The router forwards the packet to Interface 1.  <b>(ii) 135.46.57.14</b> Given that the first 22 bits of the IP above address, we have 135.45.56.0 which corresponds to the network address of the first row. The packet will be forwarded to Interface 0.  <b>(iii) 135.46.52.2</b>	5	4	5



b.	i. 00000001 00001011 00001011 11101111 - Class A ii. 11000001 10000011 00011011 11111111 - Class C iii. 14.23.120.8 - Class A iv. 252.5.15.111 - Class E (Experimental)	4	3	4
4 a.	Internetworking: 1m. Tunnelling: 5m 	6	2	2
b.	Transparent and Non Transparent Fragmentation : 2*2	4	3	3
5 a.	The significance of the following fields in the IPv4 header: 1.5 * 4 (i) TOS; (ii) DF and MF; (iii) Fragment offset; (iv) Protocol.	6	2	3
b.	UDP and TCP protocols : 2*2	4	2	2

### Course Outcomes

CO1:	Apply the algorithms/techniques of routing and congestion control to solve problems related to Computer Networks.
CO2:	Analyse the services provided by various layers of TCP/IP model to build effective solutions.
CO3	Design sustainable networking solutions with societal and environmental concerns by engaging in life long learning for emerging technology.
CO4	Exhibit network configuration, protocol usage and performance evaluation in networks.
CO5	Demonstrate the solutions using various algorithms/protocols available to address networking issues using modern tools by exhibiting team work and effective communication.

	L1	L2	L3	L4	L5	L6	CO1	CO2	CO3	CO4	CO5
Marks	-	20	22	18	-	-	-	17	21	14	8