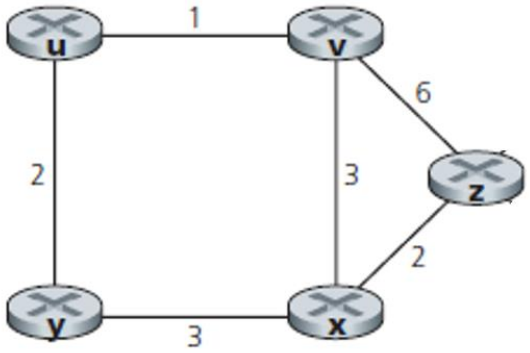
CIE: Internal Assessment Details

Internal Assessment Question Paper – 2
Ramaiah Institute of Technology
(Autonomous Institute, Affiliated to VTU)

Department of CSE **Programme : BE** **Term: Mar-June 2021**
Course: Data Communication and Networking **Course Code: CS44** **CIE: Test 2Sem: IV**
Max Marks: 30 **Date: 14/7/2021**
Portions for Test: (L29 to L56)

Instructions to Candidates:

- **Question 1 is compulsory. Answer any 2 full questions.**
- **Each question carries 15 marks.**

Sl#	Question	Marks	Bloom's Level	CO Mapping
1	a. Consider the network shown below, and assume that each node initially knows the costs to each of its neighbors. Consider the distance-vector algorithm and show the distance table entries at node z. 	5	L3	CO3
	b. Illustrate how conditional GET operates with suitable request and response messages communicated between web client and web server.	5	L2	CO5
	c. Discuss the evolution of TCP congestion window with neat figure.	5	L2	CO4
2	a. Illustrate how private IP address is mapped to public IP address using Network Address translation with a suitable example.	5	L2	CO3
	b. Describe the services provided by DNS server with an example and discuss the problem with centralized design of DNS server.	5	L2	CO5
	c. Suppose that the three measured SampleRTT values are 106 ms, 120 ms, 140 ms. Compute the EstimatedRTT after each of these SampleRTT values is obtained, using a value of $\alpha = 0.125$ and assuming that the value of EstimatedRTT was 100 ms just before the first of these five samples were obtained. Compute also the DevRTT after each sample is obtained, assuming a value of $\beta = 0.25$ and assuming the value of DevRTT was 5 ms just before the first of these three samples was obtained. Last, compute the TCP TimeoutInterval after each of these samples is obtained.	5	L3	CO4

	OR			
3	a. Consider distributing a file of F = 15 Gbits to N peers. The server has an upload rate of u_s = 30 Mbps, and each peer has a download rate of d_i = 2 Mbps and an upload rate of u. For N = 10 and u = 300 Kbps, prepare a chart giving the minimum distribution time for each of the combinations of N and u for both client-server distribution and P2P distribution.	5	L3	CO5
	b. Illustrate how an IP address can be allotted to a host using Dynamic Host Configuration Protocol with a neat figure.	5	L2	CO3
	c. Examine how paths are determined for source-destination pairs that span multiple autonomous systems using BGP with an example.	5	L2	CO4

Course Outcomes meant to be assessed by the first IA Test:

1. Solve problems of IP addressing and routing using various routing protocols and algorithms. (PO-1, 2, 3, 4,10, PSO1).
2. Differentiate between connection oriented and connection less services of transport layer (PO-1, 2, 3, 4,10, PSO1).
3. Describe the various application layer protocols used by TCP/IP reference mode (PO-1, 2, 3, 4,10, PSO1).