CIE: Internal Assessment Details

Internal Assessment Question Paper – 2
Ramaiah Institute of Technology
(Autonomous Institute, Affiliated to VTU)
Department of Computer Science and Engineering

Programme: B. E | **Term:** April 2024 – July 2024 | **Max Marks:** 30
CIE: Test 2 | **Subject:** Data Communication and Networking | **Subject Code:** CS44
Credits: 3:0:0 | **Sem:** IV | **Sec:** A, B, C
Date: 24/07/2024 | **Time:** 2:00PM–3:00PM | **Portions for Test:** (L21-L42)

Instructions to Candidates:

1. **Question 1 is Compulsory.** Answer any one question from 2 and 3.
2. Each Question carries 15M. **Write figures wherever necessary.**
3. Mobiles, smartwatches or any electronic gadgets are strictly banned.

Sl.No	Question	Marks	Bloom's Level	CO Mapping
1	a. An organization is granted a block of addresses with the beginning address 14.24.74.0/24. The organization needs to have three subblocks of addresses to use in its three subnets: one subblock of 10 addresses, one subblock of 60 addresses, and one subblock of 120 addresses. Design the sub-blocks.	6	3	CO3
	b. Illustrate CSMA/CD in detail.	5	2	CO4
	c. What is the Exposed-Station Problem? Explain in detail.	4	2	CO5
2	a. Illustrate classful addressing with a block allocation diagram.	5	2	CO3
	b. Find the codeword for the dataword: 1001 and generator: 1011.	4	3	CO4
	c. What is multiplexing? Explain three basic multiplexing techniques.	6	2	CO5
3	a. Illustrate the IPV4 datagram format.	5	2	CO3
	b. Discuss the controlled access techniques in multiple-access protocols.	6	2	CO4
	c. Assume we need to download text documents at the rate of 100 pages per minute. (Assume: A page is an average of 24 lines with 80 characters in each line). a. What is the required bit rate of the channel? b. What is the required bit length of the channel?	4	3	CO5

Course Outcomes meant to be assessed:
CO3. Solve problems of IP addressing and routing using various routing protocols and algorithms (PO-1, 2, 3, 4,10, PSO1).
CO4. Illustrate error control and media access control protocols of data link layer (PO-1, 2, 3, 4,10, PSO1).
CO5. Discuss different types of data transmission techniques. (PO-1, 2, 3, 4,10, PSO 1).