

**Department of Computer Science and Engineering**  
**Faculty of Engineering & Technology, Gurukula Kangri Deemed to be University, Haridwar**  
**First Sessional Exam**

**Subject: Computer Network**  
**Time: 1 Hr**

**Paper Code: BCE-C511**

**MM: 20**

**Note:** Answer any three questions from Section A (each question carries 4 marks).

Answer any one question from Section B (each question carries 8 marks).

Q.No.	Section A (Questions of 4 marks each)	Keyword	CO
Q1.	A data frame of size 1500 bytes is transmitted over a network link with a bandwidth of 10 Mbps and a propagation delay of 5 ms. Calculate the total transmission delay, including both propagation delay and transmission time.	Remembering	(CO1)
Q2.	Discuss the importance of error detection and correction at the Data Link Layer. What methods are commonly used for error detection (e.g., parity checks, CRC)?	Applying	(CO2)
Q3.	What is flow control, and why is it necessary at the Data Link Layer? Describe how flow control mechanisms prevent data loss during transmission.	Understanding	(CO2)
Q4.	Compare and contrast the OSI and TCP/IP models. Discuss the strengths and weaknesses of each.	Analyzing	(CO6)
<b>Section B (Questions of 8 marks each)</b>			
Q1.	Imagine you are setting up a small office network. Which network topology would you choose and why? Consider factors like cost, scalability, and ease of maintenance.	Applying	(CO3)
Q2.	Compare and contrast the OSI model with the TCP/IP model. How do these models facilitate communication in a network?	Evaluating	(CO4)