

GUJARAT TECHNOLOGICAL UNIVERSITY
BE - SEMESTER– IV(NEW) EXAMINATION – SUMMER 2023

Subject Code:2140709**Date:11-07-2023****Subject Name:Computer Networks****Time:10:30 AM TO 01:00 PM****Total Marks:70****Instructions:**

1. Attempt all questions.
2. Make suitable assumptions wherever necessary.
3. Figures to the right indicate full marks.
4. Simple and non-programmable scientific calculators are allowed.

		MARKS
Q.1	(a) Differentiate functionality of HUB and Bridge.	03
	(b) Differentiate MAN and WAN.	04
	(c) State seven layers of OSI reference model and explain functionality of any two layers.	07
Q.2	(a) Differentiate pure ALOHA and slotted ALOHA.	03
	(b) Explain IP packet fragmentation process.	04
	(c) What is IP address and what is role of subnet mask?	07
	OR	
	(c) What is range of class A IP address and number of networks in that range? What is disadvantage of class A IP address?	07
Q.3	(a) Explain structure of IP packet.	03
	(b) Explain functionality of router.	04
	(c) Write a short note on CSMA/CD.	07
	OR	
Q.3	(a) Explain TCP segment structure.	03
	(b) Explain various type of delay in packet transmission.	04
	(c) Compare stop and wait protocol with sliding window protocol.	07
Q.4	(a) Show CRC code generation process.	03
	(b) Explain data link layer frame structure.	04
	(c) Explain sliding window protocol.	07
	OR	
Q.4	(a) How NAT protocol works?	03
	(b) How DNS protocol works?	04
	(c) Explain Link state routing algorithm.	07
Q.5	(a) Explain various broadcast routing implementation techniques.	03
	(b) What is difference between broadcast and multicast routing.	04
	(c) Explain hierarchical routing technique.	07
	OR	
Q.5	(a) Differentiate congestion control and flow control.	03
	(b) Explain persistent and persistent HTTP.	04
	(c) Write a short note on virtual LAN (VLAN).	07
