

GUJARAT TECHNOLOGICAL UNIVERSITY**BE- SEMESTER-V (NEW) EXAMINATION – WINTER 2020****Subject Code:3150710****Date:01/02/2021****Subject Name:Computer Networks****Time:10:30 AM TO 12:30 PM****Total Marks: 56****Instructions:**

1. Attempt any FOUR questions out of EIGHT questions.
2. Make suitable assumptions wherever necessary.
3. Figures to the right indicate full marks.

		Marks
Q.1	(a) Explain how bit rate and baud rate are related with respect to Ethernet.	03
	(b) Differentiate between connection oriented versus connection less services in networks.	04
	(c) Explain the working of binary count down MAC layer protocol in detail.	07
Q.2	(a) Explain how multicasting differs from multiple unicasting in networks.	03
	(b) Discriminate fully qualified domain name from partially qualified domain name.	04
	(c) Explain the working of CSMA/CD protocol in detail.	07
Q.3	(a) A Bit stream 100100 is to be transmitted using standard CRC method with divisor value x^3+x^2+1 . Generate the CRC code word.	03
	(b) How switch device is different from the router?	04
	(c) Explain the problem of Count-to-infinity with example in distance vector routing algorithm.	07
Q.4	(a) What is meant by encapsulation at transport layer?	03
	(b) Explain flow and error control in TCP.	04
	(c) What do you mean by sub-netting and super-netting? Explain it with example	07
Q.5	(a) Explain NAT (Network Address Translation) as a solution to IP address depletion problem.	03
	(b) What is the minimum and maximum size of the TCP and UDP segment?	04
	(c) Explain leaky bucket algorithm for the network traffic shaping.	07
Q.6	(a) Is deadlock possible in TCP? If yes, when?	03
	(b) What is route aggregation? How it can be useful in Internet?	04
	(c) Explain the significance of the following flags present in TCP segment header: 1) URG 2) ACK 3) PSH 4) RST 5) SYN 6) FIN	07
Q.7	(a) How the Jitter is different from the delay in streaming applications?	03
	(b) Explain the following TCP socket system calls: 1) socket() 2) bind() 3) listen() 4) accept()	04
	(c) Give the well defined port number for the following protocols: 1) SMTP 2) DNS 3) HTTP 4) POP3 5) TELNET 6) HTTPS 7) SSH	07
Q.8	(a) Is data compression is necessary at the presentation layer of OSI reference model? Explain it with proper reason.	03
	(b) What do you mean by stream and datagram sockets?	04
	(c) Explain the hierarchical DNS system	07
