

GUJARAT TECHNOLOGICAL UNIVERSITY
BE - SEMESTER-IV (NEW) EXAMINATION – SUMMER 2022

Subject Code:2140709**Date:27-06-2022****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 between Connection oriented and Connectionless services.	03
(b) Explain LAN, MAN, WAN and Intranet.	04
(c) Draw the OSI reference model. Explain the functionality of each layer in brief.	07
Q.2 (a) Draw the five layered architecture of internet (TCP/IP model). Explain anyone in brief.	03
(b) Define and explain following terms in brief: (i) Delay (ii) Throughput (iii) Loss (iv) Protocol	04
(c) Discuss your understanding of a Network Topology? Explain different types of Network Topologies.	07
OR	
(c) What is subnet mask? Explain different classes of IP address.	07
Q.3 (a) Explain Bit and Byte Stuffing with example.	03
(b) Explain flow and error control in TCP.	04
(c) Explain Distance Vector Routing Algorithm.	07
OR	
Q.3 (a) Give differences between TCP and UDP.	03
(b) How UDP checksum is calculated? Explain it with example.	04
(c) Write short note on DNS.	07
Q.4 (a) Compare CRC code with normal parity code.	03
(b) Discuss the need of the Dynamic Host Configuration Protocol (DHCP).	04
(c) Explain the three way handshake process in TCP.	07
OR	
Q.4 (a) What is VLAN? When and why it is used?	03
(b) Compare IPv4 and IPv6.	04
(c) Explain dijkstra (Link state) routing algorithm.	07
Q.5 (a) Differentiate between IPv4 and IPv6.	03
(b) Differentiate broadcast and multicast with their functionalities.	04
(c) Explain pure ALOHA and slotted ALOHA protocol in detail.	07
OR	
Q.5 (a) Explain CSMA/CD Protocol	03
(b) Write a short note on HTTP.	04
(c) Write a short note on NAT (Network Address Translation Protocol).	07
