Seat No.: _____ Enrolment No._____

GUJARAT TECHNOLOGICAL UNIVERSITY

BE - SEMESTER–IV(NEW) – EXAMINATION – SUMMER 2019

Subject Code:2140709 Date:13/05/2019

Subject Name: Computer Networks

Time: 02:30 PM TO 05:00 PM Total Marks: 70

Instructions:

1. **Attempt all questions.**
2. **Make suitable assumptions wherever necessary.**
3. **Figures to the right indicate full marks.**

Q.1	**(a)**	What do you mean by Client-Server Architecture? Discuss its advantages and disadvantages.	**03**
	(b)	Define and explain following terms in brief: (i) Delay (ii) Throughput (iii) Loss (iv) Protocol	**04**
	(c)	Differentiate IP Stack and OSI Reference Model with suitable diagram.	**07**
Q.2	**(a)**	What is congestion? List the approaches congestion control.	**03**
	(b)	Differentiate between Connection-Oriented and Connection-Less Services	**04**
	(c)	Discuss your understanding of a Network Topology? Explain different types of Network Topologies.	**07**
		OR	
	(c)	What is Routing Loop? Discuss Routing Loop Avoidance Techniques.	**07**
Q.3	**(a)**	Write short note on Domain Name Server (DNS).	**03**
	(b)	What is Socket? Explain its importance at Transport Layer Protocols.	**04**
	(c)	Explain Connection Establishment and Connection Release in Transport Protocols.	**07**
		OR	
Q.3	**(a)**	Discuss the principles of Reliable Data Transfer.	**03**
	(b)	What is HTTP? Compare its persistent and non-persistent types with request-response behavior of HTTP.	**04**
	(c)	Explain Distance Vector Routing Algorithm.	**07**
Q.4	**(a)**	Explain the working of Sliding Window Protocol.	**03**
	(b)	Compare IPv4 and IPv6.	**04**
	(c)	What is a Virtual Circuit Network? How it differs from circuit switching network. Discuss with example.	**07**
		OR	
Q.4	**(a)**	Explain Ethernet header with suitable diagram.	**03**
	(b)	What is IP address and what do you mean by Subnet? Enlist different IP address Classes.	**04**
	(c)	Differentiate between Multiplexing and Demultiplexing with suitable example.	**07**

Q.5	**(a)**	Explain CRC with example.	**03**
	(b)	How TDM and FDM are useful in Channel Partitioning?	**04**
	(c)	Discuss slotted ALOHA protocol in detail.	**07**

OR

Q.5	**(a)**	Discuss the parity checks for error detection in data transfer.	**03**
	(b)	Differentiate broadcast and multicast with their functionalities.	**04**
	(c)	Explain IPV4 Datagram Format in detail with suitable diagram.	**07**

****