Seat No.: _____ Enrolment No._____

GUJARAT TECHNOLOGICAL UNIVERSITY

BE - SEMESTER–IV (NEW) EXAMINATION – WINTER 2018

Subject Code:2140709 Date:28/11/2018

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.**

			MARKS
Q.1	**(a)**	Explain following Terms: 1. Propagation Delay. 2. Super netting. 3. Tunneling.	**03**
	(b)	Explain Physical Address, IP address, Port Address in brief.	**04**
	(c)	Explain functionality of Bridge, Hub, Switch, Router, and Gateway.	**07**
Q.2	**(a)**	What is topology? Explain star topology in brief.	**03**
	(b)	What is network? Explain in brief LAN and MAN.	**04**
	(c)	Draw the layered architecture of OSI reference model and write the at least two services provided by each layer of the model.	**07**
		OR	
	(c)	Discuss transport layer multiplexing and demultiplexing concepts.	**07**
Q.3	**(a)**	What is client server architecture? Explain merits and demerits of it.	**03**
	(b)	Write a short note on CRC.	**04**
	(c)	What do you mean by congestion and overflow? Explain the slow-start component of the TCP congestion-control algorithm	**07**
		OR	
Q.3	**(a)**	Draw and explain Ethernet header.	**03**
	(b)	How UDP checksum id calculated? Explain it with example.	**04**
	(c)	Explain TCP segment structure and justify the importance of its field values.	**07**
Q.4	**(a)**	What is role of DNS (Domain Name Server) in internet?	**03**
	(b)	Give difference between flow control verses Congestion Control	**04**
	(c)	Explain layered architecture of TCP/IP model and write service provided by at least two layer of the model.	**07**
		OR	
Q.4	**(a)**	Give difference between connection oriented and connection less services.	**03**
	(b)	Differentiate Broadcast and multicast with their functionality.	**04**
	(c)	Explain IPv4 datagram format and importance of each field	**07**
Q.5	**(a)**	Discuss parity check for error detection in data transfer.	**03**
	(b)	Compare TCP and UDP.	**04**
	(c)	Explain distance vector routing algorithm.	**07**
		OR	
Q.5	**(a)**	Explain CSMA/CD Protocol	**03**
	(b)	Differentiate between IPv4 and IPv6.	**04**
	(c)	Explain Link-State routing algorithm.	**07**

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