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

Subject Code:3161007   **Date:08/06/2022**

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)**	Explain the terms: LAN, MAN, WAN.	**03**
	(b)	Explain following terms:	**04**
		1) Repeater 3) Bridges	
		2) Router 4) Gateway	
	(c)	With diagram explain OSI reference model. Write down various tasks performed by each layer in model.	**07**
Q.2	**(a)**	Give comparison between packet switching and circuit switching.	**03**
	(b)	What is the physical layer in OSI model responsible for? Which protocol is used in physical layer.	**04**
	(c)	Explain HLDC protocol with modes of operation, and frame format.	**07**
		OR	
	(c)	Write note on sliding window protocol.	**07**
Q.3	**(a)**	Give comparison between CSMA/CA and CSMA/CD	**03**
	(b)	Explain the concept of piggybacking.	**04**
	(c)	What is framing? List all methods used for framing and discuss any two methods used for framing.	**07**
		OR	
Q.3	**(a)**	Justify that how slotted ALOHA is better than pure ALOHA.	**03**
	(b)	Explain the Go Back N protocol.	**04**
	(c)	What is sliding window protocols? For what purpose this protocol is used? What are the advantages of sliding window protocol?	**07**
Q.4	**(a)**	How Bluetooth works? Explain Bluetooth architecture.	**03**
	(b)	Give differences between Frame, Packet and TPDU. How encapsulation is done?	**04**
	(c)	What is the role of routing algorithms at network layer? Explain Distance vector routing algorithm in detail.	**07**
		OR	
Q.4	**(a)**	Give comparison between X.25 network and Frame relay.	**03**
	(b)	What is the need of IP address? What is classful and classless IP address?	**04**
	(c)	Explain IPv4 header fields with necessary diagrams.	**07**
Q.5	**(a)**	Give comparison between TCP and UDP.	**03**
	(b)	Give comparison between 1-persistent and P-persistent CSMA.	**04**
	(c)	Write short note on POP3 and SMTP.	**07**

OR

Q.5 **(a)** What is flooding? Give its advantages and applications? **03**

(b) What is the function of following protocols? **04**
    1) ICMP   3) DHCP
    2) ARP   4) BOOTP

(c) Explain Domain Naming System functioning for Internet. **07**

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