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GUJARAT TECHNOLOGICAL UNIVERSITY
BE - SEMESTER–VII(NEW) EXAMINATION – SUMMER 2019

Subject Code:2171008   **Date:18/05/2019**
Subject Name:Data Communication and Networking
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)**	Briefly explain uses of computer networks.	**03**
	(b)	What is data communication? List and explain fundamental characteristics of data communication system.	**04**
	(c)	Explain OSI reference model in detail.	**07**
Q.2	**(a)**	Briefly explain co-axial cable with diagram.	**03**
	(b)	What is framing. List and explain types of framing.	**04**
	(c)	Write short note on digital subscriber line.	**07**
		OR	
	(c)	Explain Go-Back-N ARQ using neat and clean flow diagrams.	**07**
Q.3	**(a)**	Explain fundamental difference between CSMA/CA and CSMA/CD.	**03**
	(b)	Comparatively explain vulnerable time and throughputs of pure and slotted ALOHA.	**04**
	(c)	Write short note on standard Ethernet.	**07**
		OR	
Q.3	**(a)**	What is Gateway?	**03**
	(b)	Explain addressing mechanism in IEEE 802.11 standard for wireless LAN.	**04**
	(c)	Explain Bluetooth layers in detail.	**07**
Q.4	**(a)**	Write full forms: ARP, RARP, DHCP, DNS, ISDN and ATM.	**03**
	(b)	Define: Repeater, Hub, Bridges and Router.	**04**
	(c)	Explain UDP operation. Also enlist the uses of UDP.	**07**
		OR	
Q.4	**(a)**	Explain TCP connection establishment process with neat figure.	**03**
	(b)	Briefly explain virtual LAN.	**04**
	(c)	Explain ICMP error reporting in detail.	**07**
Q.5	**(a)**	Explain duties performed by network layer.	**03**
	(b)	Explain process of public key distribution.	**04**
	(c)	Write short note on Voice Over IP.	**07**
		OR	
Q.5	**(a)**	Enlist and explain services provided by network security.	**03**
	(b)	Comparatively explain symmetric and asymmetric key cryptography.	**04**
	(c)	Explain in detail: Digital signature.	**07**

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