Seat No.: _____   Enrolment No._____

GUJARAT TECHNOLOGICAL UNIVERSITY
MCA– SEMESTER –IV EXAMINATION –SUMMER-2019

Subject Code: 640001   **Date: 14-05-2019**
Subject Name: Fundamentals of Networking
Time: 10.30 am to 1.00 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)**	(1)	List protocols of Application layer.	**07**
		(2)	What is the difference between Layer 2 and Layer 3 addressing mechanism?	
		(3)	Define BPSK.	
		(4)	What is piggybacking?	
		(5)	Write the full form of CSMA/CD.	
		(6)	What is RED?	
		(7)	What is the role of 'Public-Key' in Public-Key Algorithms?	
	(b)	(1)	Define PCF, DCF, and IFS.	**03**
		(2)	Differentiate connection-oriented vs. connectionless services.	**04**
Q.2	**(a)**		Discuss FHSS and DSSS.	**07**
	(b)		Discuss OSI model in detail with respective devices work at each layer.	**07**
			OR	
	(b)		What are Hidden & Exposed station problems? How MACA helps as solution?	**07**
Q.3	**(a)**		Define the term 'Topology'. Discuss any Two topologies in detail.	**07**
	(b)		List and Compare 'Wired' & 'Wireless' media.	**07**
			OR	
Q.3	**(a)**		Discuss three-way handshakes during TCP connection establishment.	**07**
	(b)		Compare Wi-Fi(802.11) and WiMAX(802.16)	**07**
Q.4	**(a)**		Explain Two-way army problem in context of transport layer.	**07**
	(b)		Discuss Bluetooth technology with its frame structure.	**07**
			OR	
Q.4	**(a)**		List various flow-control mechanisms for DLL & discuss any three of them.	**07**
	(b)		Define the term 'Routing'. Discuss Link State Routing.	**07**
Q.5	**(a)**		Discuss Fast & Gigabit Ethernet.	**07**
	(b)		Discuss the workings of HTTP protocol.	**07**
			OR	
Q.5	**(a)**		Discuss various Resource Records in DNS.	**07**
	(b)		Define the term Cryptography and discuss various cipher modes.	**07**

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