Seat No.:	Enrolment No.

GUJARAT TECHNOLOGICAL UNIVERSITY

		ME – SEMESTER I (NEW) EXAMINATION – SUMMER 2017	
			17
	•	t Name: 3G & 4G Mobile Communication	
Ti	me:0	2:30 p.m. to 05:00 p.m. Total Marks: 7	70
Ins	2	ons: . Attempt all questions Make suitable assumptions wherever necessary Figures to the right indicate full marks.	
Q.1	(a) (b)	List 3G wireless standards. Explain any two in brief. What is OFDM? Explain it in detail.	07 07
Q.2	(a) (b)	What is diversity? How diversity is helpful in wireless communication? Explain frequency reuse concept in cellular communication.	07 07
	(b)	OR Write short note on teletraffic theory.	07
Q.3	(a) (b)	Explain fast fading channel modeling with its BER performance. Explain working of RAKE receiver.	07 07
		OR	
Q.3	(a)	Explain advantages of CDMA system. Is CDMA utilized in current 4G system? Where and how?	07
	(b)	Compare various multiple access technologies.	07
Q.4	(a) (b)	What is MIMO? Derive channel capacity of a MIMO channel. What is cyclic prefix in OFDM? Why it is required? OR	07 07
Q.4	(a) (b)	Describe SVD and Eigenmodes of MIMO channel. What is PAPR? Why PAPR is an issue in OFDM system?	07 07
Q.5	(a) (b)	What is UWB? Write short note on UWB standard. Write short note on Wi-Max.	07 07
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Q.5	(a) (b)	Present BER performance of UWB system. Write short note on LTE.	07 07
