Seat No.: _____ Enrolment No._____

GUJARAT TECHNOLOGICAL UNIVERSITY

ME – SEMESTER-1 (NEW) EXAMINATION – WINTER 2016

Subject Code: 2712702 **Date:03/01/2017**

Subject Name: 3G & 4G Mobile Communication

Time: 2:30 pm to 5:00 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)**	Explain various types of diversity in detail.	**07**
	(b)	Write short note on multiple access technologies.	**07**
Q.2	**(a)**	Explain fast fading wireless channel modeling.	**07**
	(b)	What is hand-off? Explain had-off process in detail.	**07**
		OR	
	(b)	Explain importance of PN sequence in CDMA.	**07**
Q.3	**(a)**	Explain Doppler fading, jakes model and autocorrelation.	**07**
	(b)	Write short note on walsh codes and variable tree OVSF.	**07**
		OR	
Q.3	**(a)**	Explain OFDM system.	**07**
	(b)	Explain impact of Doppler fading.	**07**
Q.4	**(a)**	Write short note on multipath diversity and rake receiver.	**07**
	(b)	Explain SVD and eigenmodes of the mimo channel.	**07**
		OR	
Q.4	**(a)**	Explain GPRS standard.	**07**
	(b)	Write short note on OSTBC.	**07**
Q.5	**(a)**	Write short note on LTE standard.	**07**
	(b)	Explain bit rate performance of ultra wide band system.	**07**
		OR	
Q.5	**(a)**	Write short note on Wi-MAX standard.	**07**
	(b)	Explain Ultra wide-band system.	**07**

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