Seat No.:	Enrolment No
-----------	--------------

## **GUJARAT TECHNOLOGICAL UNIVERSITY**

ME - SEMESTER- II(New course) • EXAMINATION (Remedial) - WINTER- 2015

Subject Code: 2724408 Subject Name: Recent Trends in Modern Wireless Commun			Date: 10/12/2015	
Engineering				
Time: 2:30 pm to 5:00 pm Total Marks: 70 Instructions:			/ <b>U</b>	
		Attempt all questions.  Make suitable assumptions wherever necessary.  Figures to the right indicate full marks.		
Q.1	(a) (b)	In a view of OFDM explain synchronization and pilot insertion. Explain Rake Receiver in detail.	07 07	
Q.2	(a)	Define processing gain and explain the same for frequency hop (FH) and direct sequence (DS) systems.	07	
	(b)	Explain DSSS transmitter and receiver.  OR	07	
	<b>(b)</b>	Explain FHSS transmitter and receiver. Also explain fast and slow FHSS.	07	
Q.3	(a) (b)	Explain MIMO applications in 3G wireless systems.  Explain all the variants of OFDM briefly.  OR	07 07	
Q.3	(a)	Differentiate Single User MIMO, Multi User MIMO and Multi-cell MIMO briefly.	07	
	<b>(b)</b>	How OFDM is different than other existing techniques? Explain OFDM with neat block diagram.	07	
Q.4	(a) (b)	Explain GPRS with current trends.  Compare microscopic and macroscopic diversity and explain space diversity.  OR	07 07	
Q.4	(a) (b)	Explain the concept of WCDMA and compare it with 3GPP. Explain frequency diversity and the systems based on frequency diversity.	07 07	
Q.5	(a) (b)	Explain the concept of SDR with its general structure of transceiver.  Explain the concept of WiMAX in detail.	07 07	
Q.5	(a) (b)	OR Define cognitive radio and explain present trends and future of SDR. Explain features of 4G and list all the possible applications of 4G.	07 07	

\*\*\*\*\*