Seat No.: _____ Enrolment No._____

GUJARAT TECHNOLOGICAL UNIVERSITY

ME - SEMESTER–II • EXAMINATION – SUMMER - 2017

Subject Code: 2722706 **Date: 26/05/2017**

Subject Name: Wireless Signal Propagation and Fading

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)**	Describe detail classification of path loss models. Describe any two outdoor path loss models in detail.	**07**
	(b)	Explain adaptive modulation techniques.	**07**
Q.2	**(a)**	Make a list of linear equalizers. Explain any two in detail.	**07**
	(b)	Make a list of indoor propagation models. Explain any two in detail.	**07**
		OR	
	(b)	Explain diversity-multiplexing trade-off.	**07**
Q.3	**(a)**	Derive the capacity of flat fading wireless channel.	**07**
	(b)	Explain wideband fading models.	**07**
		OR	
Q.3	**(a)**	Explain narrowband fading models.	**07**
	(b)	Derive the capacity of frequency-selective fading wireless channel.	**07**
Q.4	**(a)**	Explain adaptive equalization.	**07**
	(b)	Explain the concept of data transmission using multiple carriers.	**07**
		OR	
Q.4	**(a)**	How to perform mitigation of subcarrier fading?	**07**
	(b)	Explain Spatial multiplexing and BLAST architectures.	**07**
Q.5	**(a)**	What are the challenges in multicarrier systems?	**07**
	(b)	Write short note on Receiver diversity.	**07**
		OR	
Q.5	**(a)**	Write short note on OFDM.	**07**
	(b)	Write short note on Transmitter diversity.	**07**

****