

GUJARAT TECHNOLOGICAL UNIVERSITY
M. E. - SEMESTER – I • EXAMINATION – WINTER • 2014

Subject code: 2712702**Date: 09-01-2015****Subject Name: 3G and 4G Mobile Communication****Time: 02:30 pm - 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) Show mathematical modeling of fast fading wireless channel. **07**
(b) Explain BER Performance in Fading Channels. **07**
- Q.2** (a) What is diversity? How diversity can improve BER performance in wireless communication channel? **07**
(b) Write short note on Doppler Fading, Jakes Model. **07**
- OR**
- (b) Explain CDMA Receiver Synchronization. **07**
- Q.3** (a) Write short note on Channel model and SNR performance for OFDM. **07**
(b) Write short note on cellular processes. **07**
- OR**
- Q.3** (a) Explain various multiple access technology. **07**
(b) Explain RAKE receiver in details with its importance. **07**
- Q.4** (a) Give comparison of OFDM and UWB system. **07**
(b) Discuss PAPR and Frequency - Timing Offset issues in OFDM system. **07**
- OR**
- Q.4** (a) What is MIMO? Explain its importance in wireless communication. **07**
(b) Explain MIMO Spatial Multiplexing ó BLAST. **07**
- Q.5** (a) Write short note on UWB. **07**
(b) Write short note on MIMO diversity. **07**
- OR**
- Q.5** (a) Explain standard GSM in detail. **07**
(b) Write short note on WCDMA. **07**
