

GUJARAT TECHNOLOGICAL UNIVERSITY
ME SEMESTER II EXAMINATION – SUMMER 2017

Subject Code: 2724110**Date: 25/05/2017****Subject Name: Advances in Wireless Communication****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) Explain link budget from earth station to satellite. **07**
 (b) Write short note on Channel classification. **07**
- Q.2** (a) Explain direct-sequence modulation with required equations. **07**
 (b) Explain Walsh-Hadamard sequences and Scramblers. **07**
- OR**
- (b) Explain orthogonal variable spreading factor and Maximum-Length Sequence. **07**
- Q.3** (a) Discuss advantages of CDMA. **07**
 (b) Discuss channel synchronization and channel estimation. **07**
- OR**
- Q.3** (a) Explain FEC coding and multiuser detection. **07**
 (b) Explain WCDMA in details. **07**
- Q.4** (a) Explain Selection Combining and Maximum-Ratio Combining techniques for Space Diversity on Receive. **07**
 (b) Define and Explain Ergodic capacity and Outage capacity. **07**
- OR**
- Q.4** (a) Discuss performance comparison of diversity-on-receive and diversity-on-transmit schemes. **07**
 (b) Write short note on differential space-time block codes. **07**
- Q.5** (a) Write short note on Keyhole channel. **07**
 (b) Explain various BLAST architectures in details. **07**
- OR**
- Q.5** (a) Discuss merits and demerits of FDMA, TDMA, CDMA, & SDMA. **07**
 (b) Explain all the properties of pseudo noise code sequence. **07**
