

**GUJARAT TECHNOLOGICAL UNIVERSITY****BE - SEMESTER-VII EXAMINATION – SUMMER 2016****Subject Code:171004****Date:18/05/2016****Subject Name: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) What is ZigBee ? Explain in details ZigBee networks. **07**  
(b) Compare Wi Fi and Wi Max technologies. **07**
- Q.2** (a) Describe evolution of 1G, 2G and 3G mobile phone systems **07**  
(b) Explain the antenna design systems for mobile networks **07**
- OR**
- (b) With respect to mobile networks, explain co channel and adjacent channel interference **07**
- Q.3** (a) Describe in details GSM architecture with necessary block diagram and its various blocks **07**  
(b) Explain GSM network's hexagonal cellular concept and frequency reuse concept **07**
- OR**
- Q.3** (a) Enumerate various radio propagation model and explain any two of them **07**  
(b) Describe empirical formula for path loss in mobile networks **07**
- Q.4** (a) What is fading? List and explain various types of small scale fading. **07**  
(b) Describe various GSM logical and physical channels **07**
- OR**
- Q.4** (a) Write a short note on mobile portability **07**  
(b) What is hand over in GSM? Give comparison of hard hand over and soft hand over **07**
- Q.5** (a) Describe RAKE receiver in CDMA **07**  
(b) Write a short note on software defined radio **07**
- OR**
- Q.5** (a) What is the difference between 2G, 2.5G and 3G? Describe GPRS architecture. **07**  
(b) Compare CDMA forward and reverse channel. **07**

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