

**SIXTH SEMESTER B.TECH. (ENGINEERING) DEGREE
EXAMINATION, DECEMBER 2006**

EE 2K 606 D—CELLULAR AND MOBILE COMMUNICATION SYSTEMS

Time : Three Hours

Maximum : 100 Marks

Answer all questions.

1. (a) For a cellular system 15 dB is required for a satisfactory forward channel performance. Find the optimum value of cluster size if the path loss exponent is 3.
(b) Write the concept of cell splitting.
(c) Explain the signal processing in GSM.
(d) Write the features of TDMA.
(e) What is meant by blind detection ?
(f) Write the function of advanced intelligent network array.
(g) Explain the properties of PN codes used in spread spectrum systems.
(h) Write the concept of feedback diversity.

(8 × 5 = 40 marks)

2. (a) What is meant by co-channel interference ? How is it reduced ?

Or

- (b) Explain the hand off strategies used in cellular system.

(15 marks)

3. (a) Explain the principle and advantages of W CDMA.

Or

- (b) Explain the concept of digital mobile telephony.

(15 marks)

4. (a) Discuss the applications of intelligent microcell systems.

Or

- (b) Explain the applications of smart antennas in wireless communication.

(15 marks)

5. (a) Explain the basic digital modulation techniques used in mobile communication.

Or

- (b) Discuss the principle and applications of spread spectrum in mobile radio environment.

(15 marks)

[4 × 15 = 60 marks]