

Name :

Reg. No:

EIGHTH SEMESTER B.TECH (ENGINEERING) DEGREE EXAMINATION, MAY 2012

EC 04 802 - WIRELESS MOBILE COMMUNICATION
(2004 Admissions)

Time : Three Hours

Maximum : 100 Marks

PART - A

- I (a) Define coherence time and coherence bandwidth.
 (b) Draw the impulse response model of mobile radio channel.
 (c) Assume four branch diversity is used, where each branch receive an independent ray leigh fading signal. If the average SNR is 20 db, determine the probability that the SNR will drop below 10 dB. Compare thin with the case of a single receiver without diversity.
 (d) Explain the predetection technique.
 (e) Explain the cell splitting technique.
 (f) Explain how adjacent channel interference in reduced.
 (g) Define processing gain and jamming margin.
 (h) Write the advantages of spread spectrum system.

(8 × 5 = 40)

- II (a) Draw the 2-ray ground reflection model and derive the expression for the power received.

(Or)

- (b) Discuss the concepts of level crossing rate and average fade duration.

- III (a) Explain the concepts of (i) frequency non selective, slowly varying fading channels (ii) frequency selective, slowly varying fading channels.

(Or)

- (b) Explain various diversity techniques used in cellular systems.

- IV (a) Discuss the channel assignment strategies used in cellular system.

(Or)

- (b) Explain the sectoring technique to improve capacity in cellular systems with example.

- V (a) Draw the block diagram of direct sequence spread spectrum system and explain.

(Or)

- (b) Discuss the concepts of frequency hopped spread spectrum with neat diagram.

(4 × 15 = 60)