C 31622

Name.....

Reg. No.....

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THRISSUR EDUCATIONAL TRUST
CHERUTHURUTHY

EIGHTH SEMESTER B.TECH. (ENGINEERING) DEGREE EXAMINATION, MAY/JUNE 2007

EC 2K 805 (A)—WIRELESS MOBILE COMMUNICATION

Time : Three Hours Maximum : 100 Marks

Answer **all** *questions.*

1. (a) Define coherence time and coherence bandwidth.
   (b) Define Doppler spread and give its expression.
   (c) Write the basic concept of time diversity.
   (d) Write the basic concept of RAKE receiver.
   (e) What is meant by adjacent channel interference ?
   (f) Write the concept of cell splitting.
   (g) List the properties of PN sequence used in spread spectrum systems.
   (h) Define processing gain and jamming margin.

(8 × 5 = 40 marks)

2. (a) Derive the impulse response model of a multipath channel.

Or

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

(15 marks)

3. (a) Discuss the various diversity techniques used in mobile radio system.

Or

(b) (i) Discuss the concept of tapped delay line model. (6 marks)

(ii) Discuss the concept of frequency non-selective channel. (9 marks)

4. (a) Discuss the power control schemes used in cellular system.

Or

(b) Discuss the handoff strategies used in cellular system.

(15 marks)

5. (a) Explain the synchronization techniques used in spread spectrum system.

Or

(b) Discuss the fundamental concepts of spread spectrum system.

(15 marks)

[4 × 15 = 60 marks]