

Roll No.

22152

M. E. 2nd Semester (E.C.E.)

Examination – June, 2009

WIRELESS MOBILE COMMUNICATION

Paper: MEEC – 508

Time : Three hours]

[Maximum Marks : 100

Before answering the questions, candidates should ensure that they have been supplied the correct and complete question paper. No complaint in this regard, will be entertained after examination.

Note : Attempt any *five* questions.

1. (a) List the factors that led to the development of the GSM systems. 5
- (b) Give in detail the comparison of various Wireless System. 10
- (c) Between a pager, a cellular phone and a cordless phone, which device will have the longer battery life ? 5

2. (a) Why are MAHO and MCHO handled differently in the link transfer procedure ? Why can MAHO and MCHO link transfers be handled in

similar way ? What are the steps of MAHO link transfer ? 10

(b) If 20 MHz of total spectrum is allocated for a duplex wireless cellular system and each simplex channel has 25 KHz RF bandwidth. Find : 10

(i) The number of duplex channels.

(ii) Total no. of channels per cell site if $N = 4$ cell reuse is used.

3. Write short note on : 20

(i) Cell splitting,

(ii) Cell sectoring.

4. (a) Differentiate between Co-channel interference and adjacent channel interference. 10

(b) Find the far field distance for an antenna with maximum dimension of 1m and operating frequency of 900 MHz in case of free space propagahon model. 10

5. (a) Explain in detail PCS extension to Hate model. 10

(b) Discuss in detail log-distance pathloss model. 10

6. (a) Explain various types of carrier sense multiple access protocols. 10

(b) Explain in detail various parameters which describe the time varying nature of the channel in a small scale region. 10

7. What are various multiple access techniques.
Differentiate between FDMA, TDMA and SDMA. 20

8. (a) Explain various steps followed during
registration and call delivery. 10

(b) Write a short note on Wireless Data Service. 10