

BE. Sem VII (Rev). EXTC - may 2006
Mobile Communication System
[REVISED COURSE] K.T Exam

(2)

CON/1915-06.

TV-9174

(3 Hours)

[Total Marks : 100

- N.B. : (1) Question No.1 is compulsory.
(2) Attempt any four out of remaining six questions.
(3) Illustrate answers with neat sketches and diagrams wherever required.

1. (a) What is frequency reuse concept ? 20
(b) Explain various hand-off strategies ?
(c) What is the importance of 1 mi intercept ?
(d) What is micro-cell zone concept ?
 2. (a) For the 2-wave ground reflection model, derive the expression for received power at a distance 'd' from the transmitter. 10
(b) List and explain all the factors which influence cell capacity. Suggest methods to improve it. 10
 3. (a) What is small scale fading ? Explain various factors which influence small scale fading. 10
(b) Explain the following in GSM system : 10
(i) Dedicated control channel,
(ii) Home location register.
 4. (a) Explain how RAKE receiver improves signal to noise ratio in CDMA system. 10
(b) Explain with suitable block diagram, the modulation process on reverse IS95 channel. 10
 5. (a) Draw the block diagram of GSM system Architecture and Explain it. 10
(b) What are different diversity scheme used in mobile radio environment ? Hence explain the maximal ratio combining and equal gain combining techniques. 10
 6. (a) Explain the DECT standard covering radio and signal aspects. 10
(b) Sketch block diagram of forward CDMA channel modulation process and explain functions of each block. 10
- Write short notes on the following (any four) : 20
- (a) PACS (Personal Access Communication Systems),
 - (b) The CT-2 standard and features,
 - (c) PHS (Personal Hydrophone System),
 - (d) Security algorithm for GSM,
 - (e) Channel borrowing and channel sharing.