

Con. 6083-09.

B.E. (ETRX) Sem VII (R)

SP-6545

Wireless Communication
(3 Hours)

[Total Marks : 100

31/12/09

10:30 to 1:30

- N.B. :** (1) Question No.1 is **compulsory**.
 (2) Attempt any **four** questions out of remaining **six** questions.
 (3) Assume **suitable** data, wherever **necessary**.

1. Answer any **four** of the following :- 20
- What is frequency reuse concept ?
 - Define reflection, diffraction, and scattering, the three basic propagation mechanisms in mobile communication.
 - Explain various hand-off's strategies.
 - What is log normal shadowing ?
 - What is micro-cell zone concept ?
2. (a) Compare AMPS and ETACS systems. Give their relative advantages and disadvantages. 8
- (b) For a G.S.M. system. Explain physical channel formation. Hence give the G.S.M. radio air interface specifications ? 6
- (c) What are architectural methods for capacity expansion in cellular communication ? 6
3. Explain Haygen's Principle ? Hence explain Fresnel zone geometry for direct path, diffracted path. 20
4. (a) Why is power control important in CDMA ? 10
- (b) For reverse CDMA channel, explain the variable data rate transmission with the help of data randomizer algorithm. 10
5. (a) With the help of Hadmard Matrix (Walsh Code) explain forward channels and their functions used in IS-95 cellular system. 10
- (b) Explain with neat diagram, the functions of each block in detail for signal processing in G.S.M. 10
6. (a) Explain speech channel coding and interleaving used in USDC systems. 10
- (b) List and explain the factors influencing small scale fading. 10
7. Write short notes on any **three** of the following :- 20
- RAKE Receiver
 - Security Algorithms for GSM
 - Subscriber Identity Module
 - G.P.R.S.