

(Library)

Sem - VII (Rev) Etnre

15/6/2010.

P4-Exam.-March-10-2-250

W. Com

Con. 3135-10.

Wireless Communication  
(3 Hours)

AN-2767

[Total Marks : 100

- N.B. : (1) Question No. 1 is compulsory.  
(2) Attempt any four questions from remaining six questions.  
(3) Figures to the right indicate full marks.

1. Attempt any four :- 20
- (a) What is "Umbrella cell approach" ? Explain its advantages.
  - (b) Explain security in GSM
  - (c) Write a note on DECT
  - (d) Define the following terms :-
    - (i) Traffic intensity
    - (ii) Grade of service
    - (iii) Blocked Call
    - (iv) Set up time
    - (v) Request Rate.
  - (e) Differentiate between Fast Fading and Slow Fading.
2. (a) Explain the various techniques used to expand the capacity of cellular system. 10  
(b) If 20 MHz of total spectrum is allocated for a duplex wireless cellular system and each simplex channel has 20 KHz RF Bandwidth. 10  
Find : (i) The no. of duplex channels.  
(ii) The total no. of channel per cell site if N = 4 cell reuse is used.
3. (a) Show that total E-field received for the two-ray ground reflection model is given 10  
as  $|E_{TOT}(d)| = \frac{2 E_{0d0}}{d} \sin\left(\frac{\theta A}{2}\right)$ .
- (b) Explain scattering in mobile radio propagation. 5
  - (c) What are the different physical factors which influences small scale fading ? 5
4. (a) Explain voice modulation process in AMPS. 10  
(b) Explain signal processing in GSM. 10
5. (a) What are the features and services that has been standardized in CDMA(IS-95A). 10  
(b) Explain in detail the two channel types in GSM. 10
6. (a) Explain CDPD network Architecture. 10  
(b) Explain the functional Architecture of PACS. 10
7. Write short notes (any four) :- 20
- (a) HSCSD in GSM
  - (b) Personal Handyphone System
  - (c) General packet radio services in GSM
  - (d) Cell dragging
  - (e) Explain the terms : (i) Coherence Bandwidth and (ii) Doppler Spread.