B.E. Sem 7 (Rev.) EXTC Mobile communication system 12/12/08

ws Oct 08 224

Con. 5520-08. (REVISED COURSE) RC-7325

(3 Hours) [Total Marks : 100

N.B. : (1) Question No. **1** is **compulsory**.
(2) Answer any **four** questions out of remaining **six** questions.
(3) Assumptions made must be **clearly** stated.

1. (a) Compare GSM and CDMA systems. 5
(b) Discuss about frequency reuse used in cellular system. 5
(c) Explain in brief about free space propagation model. 5
(d) List and discuss about the factors influencing small scale fading. 5

2. (a) Discuss about interferences associated with cellular system and its effect on system capacity. 12
(b) If a transmitter produces 50 W of power, express the transmit power in units of (a) dBm and (b) dBW. If 50 W is applied to a unity gain antenna with 900 MHz carrier frequency, find the received power in dBm at a free space distance of 100 m from the antenna. What is Pr(10 km) ? Assume unity gain for receiver antenna. 8

3. (a) Discuss the GSM system architecture. 8
(b) With a neat block diagram, explain forward CDMA channel. 12

4. (a) Explain the call handling in AMPS and ETACS system. 10
(b) Explain the network architecture of Global star system and also explain its features. 10

5. (a) Explain how security is provided in GSM system. 10
(b) Explain DECT standard with respect to radio and signalling aspects and architecture. 10

6. (a) Explain how authentication is provided in subscriber identity module. 10
(b) Discuss IMT 2000 system. 10

7. Write short notes on :- 20
(a) Dedicated control channels in GSM.
(b) Irridium system
(c) Sectoring for capacity improvement
(d) Rayleigh fading distribution.
