

USN

--	--	--	--	--	--	--	--	--	--

06TE73

Seventh Semester B.E. Degree Examination, December 2012
Wireless Communication

Time: 3 hrs.

Max. Marks:100

**Note: Answer FIVE full questions, selecting
at least TWO questions from each part.**

PART – A

- 1 a. With a neat block diagram, discuss the structure of PSTN. (07 Marks)
- b. What is the need for SS7? Explain its working, with a neat block diagram. (08 Marks)
- c. Discuss briefly the characteristics of 1G, 2G and 3G. (05 Marks)
- 2 a. Explain wireless cellular system components with a neat block diagram. (10 Marks)
- b. Explain in detail, the steps involved in mobile originated call operations. (07 Marks)
- c. How is IMSI number formed? (03 Marks)
- 3 a. Explain in detail, the various capacity expansion techniques in cellular system. (10 Marks)
- b. Discuss the concepts of power management as applied to wireless cellular communication system. (07 Marks)
- c. Determine the frequency reuse distance, if cell radius is 5 kms and cluster size of 7. (03 Marks)
- 4 a. With suitable diagrams, explain the GSM channel concept. (10 Marks)
- b. Explain the GSM traffic and control signal burst. (10 Marks)

PART – B

- 5 a. List different call setup operations. Explain any two operations with flow diagrams. (10 Marks)
- b. Explain GSM inter-MSC handover operation with a neat diagram. (10 Marks)
- 6 a. With a neat block diagram, explain the generation of CDMA synchronization channel. (10 Marks)
- b. Describe in detail, the process of soft handoff in CDMA. (10 Marks)
- 7 a. List the various diversity technique used in mitigate the effects of signal fading in wireless communications. Explain any two. (10 Marks)
- b. What is the received power in dBm for a signal in free space with a transmitting power of 1W, frequency of 1900 MHz and distance from the receiver of 1000 mts, if the transmitting antenna and receiving antenna both use dipole antennas with gains of approximately 1.6? What is the path loss in dB? (04 Marks)
- c. Write a note on multipath and Doppler effects specific to air interface for wireless mobile systems. (06 Marks)
- 8 a. Write a note on wireless LAN security. (06 Marks)
- b. Discuss the details of IEEE 802.15.1 physical layer. (08 Marks)
- c. Describe the typical wireless MAN deployment scenario. (06 Marks)

* * * * *

Important Note : 1. On completing your answers, compulsorily draw diagonal cross lines on the remaining blank pages.
2. Any revealing of identification, appeal to evaluator and /or equations written eg, 42+8 = 50, will be treated as malpractice.

