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10EC81

Eighth Semester B.E. Degree Examination, June/July 2017
Wireless Communications

Time: 3 hrs.

Max. Marks:100

**Note: Answer any FIVE full questions, selecting
atleast TWO questions from each part.**

PART – A

- 1 a. Briefly explain the different generation of cellular system. (10 Marks)
 b. Explain with a neat flow diagram AMPS mobile originated call. (10 Marks)
- 2 a. Explain with diagram mobile switching centre (MSC). (10 Marks)
 b. Explain with necessary diagram the formats of cell global identity number, mobile global identity number, IMEI number and local area identity number. (10 Marks)
- 3 a. Explain differences between cell splitting and cell sectoring capacity expansion techniques with neat diagram. (07 Marks)
 b. For a mobile system of cluster size of 12 determine the frequency reuse distance if the cell radius is 8 km. (03 Marks)
 c. Name three basic functions performed by the location management and explain cellular location updating with figure. (10 Marks)
- 4 a. Explain with diagram GSM network architecture. (10 Marks)
 b. Explain in detail GSM channel concepts. (10 Marks)

PART – B

- 5 a. Explain with flow diagram GSM call configuration and call accepted. (10 Marks)
 b. Explain with diagram GSM intra BSC handover operation. (10 Marks)
- 6 a. Explain reverse traffic channel generation in CDMA. (10 Marks)
 b. Explain different call hand offs in CDMA system. (10 Marks)
- 7 a. What is the received power dBm for a signal in free space with a transmitting power of 800 mW at a frequency of 980 MHz and distance from the receiver is 6000m, if the transmitting receiving gain is approximately equal to 1. What is the path loss in dB? (06 Marks)
 b. Explain direct sequence and frequency hopping spread spectrum. (08 Marks)
 c. Explain RAKE receiver with a diagram. (06 Marks)
- 8 a. List four fundamental ways in which 802.16a (Wimax), 802.11 in (WLAN) and 802.15 (Bluetooth) different from one another. (04 Marks)
 b. Explain Bluetooth protocol stack with diagram. (08 Marks)
 c. Explain with suitable diagram independent basic service set networks and distribution system concept supported by IEEE 802.11 architecture. (08 Marks)

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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.