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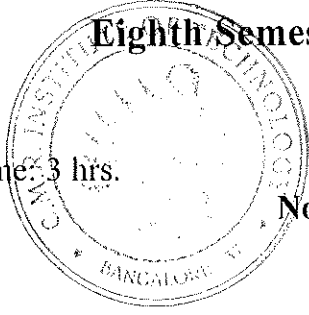
10EC81

Eighth Semester B.E. Degree Examination, June/July 2016
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. Explain the various steps in AMPS mobile terminated call. (10 Marks)
b. Explain the characteristics of 2G and 3G cellular systems. (10 Marks)
- 2 a. Explain the generation of MSISDN, IMSI and IMEI. (06 Marks)
b. Explain the function of HLR and ILR. (06 Marks)
c. Explain a mobile originated call in a cellular network with a neat flow diagram. (08 Marks)
- 3 a. A service provider is given license for total bandwidth of 5 MHz and each system subscriber requires 10 kHz bandwidth. Determine the system capacity if the service provider implements a cellular system with 35 transmitter sites and cluster size of 7. (06 Marks)
b. Determine frequency reuse distance for a cluster size of 7 and a cell radius of 6 km. (04 Marks)
c. Explain mobility management concept. Explain the functions of location management with a figure. (10 Marks)
- 4 a. Explain the GSM signaling model. (10 Marks)
b. Explain the steps in call setup in GSM using mobile station roaming number. (10 Marks)

PART – B

- 5 a. List out the ten operations in call setup in GSM system. Explain in detail ciphering mode setting and IMEI check. (10 Marks)
b. Explain GSM intra BSC handover operation with a figure. (10 Marks)
- 6 a. Explain the functions of three layers in a network management system. (10 Marks)
b. Explain the generation of CDMA paging channel. (10 Marks)
- 7 a. Explain the path loss model for free space propagation. (05 Marks)
b. What is the received power in dBm for a signal in free space with a transmitting power of 1 kW, frequency of 1800 MHz and distance from the receiver of 2000 meters if the transmitting antenna and receiving antennas have a gain of 1.6? What is the path loss in dB? (05 Marks)
c. Explain frequency hopping and direct sequence spread spectrum techniques. (10 Marks)
- 8 a. Discuss the design issues of IEEE802.11 and explain the working of BSS, DS and ESS network. (10 Marks)
b. Explain the details of Bluetooth protocol stack with a figure. (10 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, 4+2+8 = 50, will be treated as malpractice.