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10EC81

**Eighth Semester B.E. Degree Examination, June/July 2014**

**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 an appropriate diagram, explain the OSI model. How does it relate to communication network? (10 Marks)
- b. Describe the characteristics of 1G, 2G and 3G cellular system. How do 2G cellular system support more than one user per channel? (10 Marks)
- 2 a. Draw the neat block diagram of common cellular system and explain the base station system (BSS) components. (10 Marks)
- b. With neat flow diagram, explain the mobile terminated call operation. (10 Marks)
- 3 a. Explain the following capacity expansion techniques:
  - i) Cell splitting
  - ii) Cell sectoring
  - iii) Overlaid cells
 (10 Marks)
- b. Explain the power control and power saving schemes in cellular system. (10 Marks)
- 4 a. With a neat GSM network architecture, explain the network switching system (NSS). (10 Marks)
- b. With suitable diagram, explain the GSM channel concept. (10 Marks)

**PART – B**

- 5 a. List the different call setup operations and with flow diagram explain interrogation phase and IMEI check operation. (10 Marks)
- b. With neat flow diagram, explain GSM inter BSC handover operation. (10 Marks)
- 6 a. With a neat block diagram, explain the generation of CDMA forward traffic channel. (10 Marks)
- b. Explain the CDMA mobile originated timeline. (10 Marks)
- 7 a. With neat diagram, explain 4-psk modulation technique. (10 Marks)
- b. Explain the following:
  - i) Path loss model
  - ii) Block interleaving
 (10 Marks)
- 8 a. What are the IEEE 802.11 extensions? (06 Marks)
- b. With suitable diagram, explain the Bluetooth piconet architecture. (07 Marks)
- c. With suitable diagram explain the Bluetooth system components. (07 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.