

## Eighth Semester B.E. Degree Examination, June/July 2018

### Wireless Communication

Time: 3 hrs.

Max. Marks:100

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

#### PART - A

- 1 a. Describe the characteristics of 2G and 3G cellular systems. (10 Marks)
- b. Explain with a neat flow diagram AMPS mobile originated call. (10 Marks)
- 2 a. With a neat block diagram, explain the functions performed by various blocks of a subscriber device. (10 Marks)
- b. Define and explain the generation of IMSI, IMEI and CGI. (10 Marks)
- 3 a. Explain capacity expansion techniques:
  - (i) Cell splitting
  - (ii) Cell sectoring
  - (iii) Overlaid cells
 (10 Marks)
- b. Explain the concept of frequency reuse for cellular system. For a mobile system of cluster size of 7, determine the frequency reuse distance if the cell radius is 5 km. Repeat the calculation for a cluster size of 4. (10 Marks)
- 4 a. With a neat sketch, explain GSM signaling model. (10 Marks)
- b. Explain the various logical channels used in GSM. (10 Marks)

#### PART - B

- 5 a. Explain GSM Inter-BSC handover operation with a neat diagram. (10 Marks)
- b. With a neat block diagram, explain the generation of CDMA reverse access channel. (10 Marks)
- 6 a. Explain with block diagram the generation of CDMA forward traffic control with power control for 14.4 kbps traffic. (10 Marks)
- b. Describe the soft handoffs process in CDMA. (10 Marks)
- 7 a. Explain convolutional and turbo encoders. (06 Marks)
- b. Discuss path loss model. (04 Marks)
- c. Explain with a neat block diagram RAKE receiver. (10 Marks)
- 8 a. What are the IEEE 802.11 extensions? (06 Marks)
- b. Describe the blue tooth protocol stack with relevant figures. (08 Marks)
- c. Depict the relationship between IEEE 802.11 sending and receiving station with a state diagram. (06 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 equate is written eg, 42+8 = 50, will be treated as malpractice.