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10TE73

Seventh Semester B.E. Degree Examination, Dec.2018/Jan.2019

**Wireless Communication**

Time: 3 hrs.

Max. Marks:100

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

**PART - A**

- 1 a. Discuss the general history and evolution of wireless technology. (10 Marks)  
b. Explain the characteristics of 2G and 3G cellular systems. (10 Marks)
- 2 a. With a neat block diagram, explain common cellular system components. (10 Marks)  
b. Explain a mobile terminated call in a cellular network with a neat flow diagram. (10 Marks)
- 3 a. Explain briefly the following capacity expansion techniques i) Cell splitting ii) Cell sectoring iii) Overlaid cells. (12 Marks)  
b. Explain different functions of mobility management. (08 Marks)
- 4 a. List the various logical channels used in GSM. (10 Marks)  
b. Explain TDMA concept and how it is implemented in GSM. (10 Marks)

**PART - B**

- 5 a. List different call setup operation in GSM system. Explain any two operations in detail. (10 Marks)  
b. Explain GSM inter BSC hand over operation with necessary diagram. (10 Marks)
- 6 a. Explain the process of soft hand off in CDMA. (10 Marks)  
b. Explain the following terms:  
i) Synchronization channel  
ii) Pilot channel. (10 Marks)
- 7 a. Explain various digital modulation techniques used in wireless communication. (10 Marks)  
b. Explain Error Detection and correction coding technique used in wireless communication. (10 Marks)
- 8 a. Explain with a neat block diagram, the function of RAKE receiver. (10 Marks)  
b. Explain the Bluetooth protocol stack with relevant figures. (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. 42+8 = 50, will be treated as malpractice.

