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Eighth Semester B.E. Degree Examination, Dec.2016/Jan.2017
Wireless Communication

Time: 3 hrs.

Max. Marks:100

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

PART – A

- 1 a. Explain with a neat diagram SS7 signaling system and their function. (10 Marks)
- b. Explain with a neat flow diagram, AMPS mobile originated call. (10 Marks)
- 2 a. With a neat block diagram, the MSC sub system. (08 Marks)
- b. Define and explain the generation of IMSI, IMEI and CGI. (08 Marks)
- c. What is the purpose of visitor location register and interworking location register? (04 Marks)
- 3 a. Explain capacity expansion techniques : (10 Marks)
 - i) Cell splitting
 - ii) Cell sectoring
 - iii) Overlaid cells.
- b. A service provider wants to provide cellular communication to a particular geographic area. The total bandwidth, the service provider is licensed for 5 MHz and system subscriber requires 10 KHz of bandwidth. Determine the system capacity; If the service provider implements a cellular system with 35 transmitter sites and cluster size of 7, determine the new system capacity. (06 Marks)
- c. Determine frequency reuse distance for cell radius 5 km and cluster size of 7. (04 Marks)
- 4 a. Explain briefly service provided by GSM. (06 Marks)
- b. With a neat block diagram, explain different protocols used in GSM signaling model. (10 Marks)
- c. Draw and explain GSM TDMA frame with logical channel. (04 Marks)

PART – B

- 5 a. Explain GSM intra BSC handover with a neat diagram. (10 Marks)
- b. Describe GSM chiphering mode setting operation and IMEI check. (10 Marks)
- 6 a. Explain with block diagram the generation of CDMA forward traffic control with power control channel for 14.4 kbps traffic. (10 Marks)
- b. Draw and explain CDMA synchronization channel signal. (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. Discuss the design issues of IEEE 802.11. (04 Marks)
- b. Explain the working of BDS, DS and ESS network with a neat diagram. (08 Marks)
- c. Describe the Bluetooth protocol stack with relevant figures. (08 Marks)