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10EC81

# Eighth Semester B.E. Degree Examination, Dec.2015/Jan.2016
## 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. Describe AMPS mobile phone initialization steps, with neat time diagram. **(10 Marks)**

b. Describe AMPS handoff operation, with neat diagram showing the time sequences of events, signals and messages used. **(10 Marks)**

2 a. Draw a neat diagram, showing typical wireless system components and describe each component in brief. **(12 Marks)**

b. Draw and explain the structure of MSISDN, IMSI and IMEI identification numbers. **(08 Marks)**

3 a. Explain with relevant diagrams, how cell splitting and cell sectoring enable capacity expansion. **(10 Marks)**

b. Explain how Radio Resource Management and Power Management are done in Wireless Communication Systems. **(10 Marks)**

4 a. Classify and name GSM logical channels and explain their major functions. **(10 Marks)**

b. Draw and describe the structure of TDMA frame, multiframe, superframe and hyperframe. Specify their time lengths. **(10 Marks)**

### PART – B

5 a. Explain Authentication and Ciphering mode setting. Operations in GSM call setup operation with relevant flow diagrams. **(12 Marks)**

b. Explain Intra BSC Handover in GSM, with neat figure. **(08 Marks)**

6 a. Explain Network Nodes in CDMA 2000 wireless system, with neat diagram. **(12 Marks)**

b. Explain spectrum spreading operation in CDMA channels. **(08 Marks)**

7 a. Discuss various coding techniques used in wireless communication. **(12 Marks)**

b. Discuss various path loss models. **(08 Marks)**

8 a. Draw and describe Frame structure for general and management MAC frame format in 802.11. Also explain the 2 byte control field. **(12 Marks)**

b. Draw and explain typical piconet and scatter net in Bluetooth. How one device can act as both master and slave in scatternets? **(08 Marks)**

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