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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