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10EC81

Eighth Semester B.E. Degree Examination, Dec.2018/Jan.2019
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. With a neat diagram, explain the early AM wireless transmitter system. **(10 Marks)**

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

2 a. Explain the common wireless cellular network components with neat block diagram. **(08 Marks)**

b. With a neat diagram, explain the steps involved during mobile terminated call operation. **(08 Marks)**

c. Explain the hardware view of cellular network with diagram. **(04 Marks)**

3 a. Explain the concept of cell splitting and cell sectoring with diagram. **(08 Marks)**

b. Explain the concept of frequency reuse for cellular system. For a mobile system of cluster size 7 (seven) determine the frequency reuse distance if the cell radius is 5 km. Repeat the calculation for a cluster size of 4. **(06 Marks)**

c. Explain the three power saving schemes in cellular system. **(06 Marks)**

4 a. Write the classification of logical channels and explain the various functions of this logical channels. **(10 Marks)**

b. Explain the TDMA hyperframe structure with diagram in detail. **(10 Marks)**

PART – B

5 a. Explain with a neat flow diagram, (i) Radio resource connection establishment. (ii) Authentication. **(10 Marks)**

b. Define handoff. With a neat diagram, explain the steps involved during Intra-BSC handover. **(10 Marks)**

6 a. Explain the basic spectrum spreading operation in CDMA system. **(08 Marks)**

b. Explain the network nodes found in CDMA 2000 wireless system. **(12 Marks)**

7 a. Explain error detection and correction codes used for wireless systems. **(08 Marks)**

b. With neat block diagram, explain the rake receiver and also list the potential problems of rake receiver. **(12 Marks)**

8 a. Explain with necessary diagrams, Bluetooth piconet and scatternet architectures. **(08 Marks)**

b. Explain the IBSS and DSC topologies supported by IEEE802.11 architecture. **(08 Marks)**

c. Briefly explain 4×4 antenna sectoring scheme in WMAN. **(04 Marks)**

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