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P.E.S. College of Engineering, Mandya - 571 401

(An Autonomous Institution affiliated to VTU, Belgaum)

Eighth Semester, B.E. - Computer Science and Engineering

Semester End Examination; June/July - 2015

Wireless Technology

Time: 3 hrs

Max. Marks: 100

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

PART - A

1. a. Describe the sequence of events that occurs when a mobile subscriber wants to make a call in AMPS cellular system. 6
- b. Draw the architecture of typical wireless cellular system and discuss the functions of different types of databases of cellular system. 8
- c. How is the subscriber device identified in a cellular system? Explain. 6
- 2 a. Explain the term : i) Frequency reuse distance (ii) Signal – to – interference ratio (SIR) 4
- b. Explain cell splitting and cell sectoring capacity expansion techniques of cellular system. 10
- c. Discuss static location updating method of cellular system. 6
- 3 a. Explain in detail BCHs, CCHs and DCCHs of GSM cellular system. 10
- b. Discuss GSM intra and Inter BSC handover operations with the help of relevant diagrams. 10
- 4 a. With neat block diagram, explain different network nodes of cdma2000 wireless system in detail. 10
- b. Explain the following procedures with neat diagram. 10
 - (i) Basic spreading procedure used in forward CDMA channels
 - (ii) CDMA Reverse access channel generation

PART - B

- 5 a. Write a short note on wireless data networks. 6
- b. Discuss path loss model of free space propagation. 6
- c. Explain digital frequency modulation and digital phase modulation techniques. 8
6. a. Discuss the format of a single - slot blue tooth packet with relevant program. 6
- b. Explain the two basic types of ad_hoc network topologies used in Bluetooth technology with neat diagram. 8
- c. Compare WLANs and WPANs. 6
- 7 a. List and explain different categories of satellite systems. 12
- b. Summarize cellular applications of microwave system. 8
- 8 a. Write a short notes on : 20
 - i) Cognitive Radio Technology (CRT)
 - ii) Wireless Semiconductor Technology (WST)
 - iii) Mesh Networks and push –to- Talk technology
 - iv) 4G wireless characteristics.