7E4238

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B.Tech. (Sem. VII) (Main) Examination, Nov-Dec - 2011
Computer Science
7CS2 Wireless Communication and Networks

Time : 3 Hours

Total Marks : 80
Min. Passing Marks : 24

Attempt any five questions, selecting one question from each unit. All questions carry equal marks. (Schematic diagrams must be shown wherever necessary. Any data you feel missing suitably be assumed and stated clearly. Units of quantities used/calculated must be stated clearly.)

UNIT - I

1. (a) Discuss the similarities and differences between a conventional cellular system and a satellite based cellular system.   (8)
   (b) Explain the concept of frequency reuse in detail.   (8)

OR

1. Explain the techniques used for the improvement of Coverage and Capacity in cellular systems.   (16)

UNIT - II

2. (a) Consider global system for Mobile, which is a TDMA/FDD system that uses 25 MHz for forward link. Which is broken into radio channels of 200 KHz. If 8 channels (speech) are supported on a single radio channel, and if no guard band is assumed, find the number of simultaneous users that can be accommodated in GSM.   (5)
   (b) Explain the concept of Localization and Calling.   (7)
   (c) Give the System Architecture of GSM.   (4)

OR

2. (a) If a normal GSM time slot consists of six trailing bits, 8.25 guard bits, 26 training bits, and two traffic bursts of 58 bits of data, find the frame efficiency.   (8)
   (b) Explain the need for specialized MAC in detail.   (8)

UNIT - III

3. (a) Give an overview of IEEE 802.11 wireless LAN standard also give the channelization scheme for IEEE 802.11 b all over the World.   (10)

(b) Explain MAC Management and functions. **(6)**

OR

3. (a) Give the Design goals; advantages and disadvantages of wireless LAN. **(6)**

(b) Explain link Manager protocol in detail also explain L2CAP. **(6)**

(c) Which standards are followed by Bluetooth? Explain. **(4)**

UNIT - IV

4. (a) Explain Destination sequenced distance vector routing (DSDV) for mobile adhoc network. **(10)**

(b) Describe transaction-oriented TCP in detail. **(6)**

OR

4. (a) Explain temporary ordered routing algorithm (TORA) for mobile adhoc network. **(10)**

(b) Explain the concept of tunneling and encapsulation. **(6)**

UNIT - V

5. (a) Explain the file systems used in support for mobility in wireless communication. **(8)**

(b) Describe wireless session protocol and wireless transaction protocol in detail. **(8)**

OR

5. (a) Give the architecture of wireless application protocol also explain Wireless datagram protocol. **(10)**

(b) Write short note on push/pull services. **(6)**