Code No: L0423 **R07** Set No. 1

IV B.Tech. II Semester Supplementary Examinations, July/August, 2012
WIRELESS COMMUNICATIONS AND NETWORKS
(Common to Electronics &Communication Engineering and Electronics &Computer Engineering)

Time: 3 Hours   Max Marks: 80

Answer any FIVE Questions
All Questions carry equal marks
****

1. a) What are the major requirements of wireless LANs?
    b) Discuss about the configuration and transmission issues of spread spectrum
       wireless LANs?   [8+8]

2. a) Distinguish between wireless and fixed telephone networks.
    b) Mention the limitations of wireless networks.   [8+8]

3. a) Compare CSMA Protocol and Reservation Protocol
    b) Discuss the advantages of using CDMA for a cellular network.   [8+8]

4. a) Explain packet flow if two mobile nodes communicate and both are in foreign
       networks. What additional router do packets take if reverse tunneling is required?
    b) What are the primary goals of the WAP forum effort and how are they reflected
       in the WAP protocol architecture?   [8+8]

5. a) Name the four states that a Bluetooth terminal can take and explain the difference
       among these states?
    b) Explain the continuously variable slope delta modulator (CVSD) scheme for
       voice encoding in Bluetooth.   [8+8]

6. Draw the system architecture for GPRS and explain that?   [16]

7. a) Explain SS7 protocol architecture with necessary figures.
    b) Draw the block diagram of ISDN and explain two interfaces used in the network.
                                                                                        [8+8]

8. a) Explain the similarities between the medium access control of the HIPERLAN2
       and DECT?
    b) What is the symbol duration and guard time of the IEEE802.11a/ HIPERLAN2
       OFDM modems?   hat is the purpose of the guard time?   [8+8]

|'|'|||||'|'||'|'|

IV B.Tech. II Semester Supplementary Examinations, July/August, 2012
WIRELESS COMMUNICATIONS AND NETWORKS
(Common to Electronics &Communication Engineering and Electronics &Computer Engineering)

Time: 3 Hours   Max Marks: 80

Answer any FIVE Questions
All Questions carry equal marks
****

1. a) Explain multiple access scheme for a wireless system and compare it with a wired system
    b) Discuss the salient features of a TDMA system and compare it with that of an FDMA system   [8+8]

2. a) Discuss the historical overview of wireless communications.
    b) What are the key advantages of WLL over a wired subscriber loop?   [8+8]

3. a) Explain about ATM network concept.
    b) Give the general structure of an ATM switch.   [8+8]

4. a) Discuss WAP architecture with neat schematics
    b) Explain the following protocols in CDPD:
        i). Mobile data link protocol (MDLP).
        ii). Radio resource management protocol (RRMP).   [8+8]

5. a) What are the parameters used by the security algorithms in Bluetooth?
    b) List the Bluetooth radio and base band parameters.   [8+8]

6. a) Discuss the applications supported by IEEE802.15 home RF technology?
    b) Explain any one routing protocol in adhoc networking?   [8+8]

7. a) How is authentication provided in wireless LAN?
    b) Explain the IEEE802 architecture and services?   [8+8]

8. a) Write about shared mobile data networks?
    b) Draw the reference architecture of the CDPD?   [8+8]

Code No: L0423 **R07** Set No. 3

IV B.Tech. II Semester Supplementary Examinations, July/August, 2012
WIRELESS COMMUNICATIONS AND NETWORKS
(Common to Electronics &Communication Engineering and Electronics &Computer Engineering)

Time: 3 Hours   Max Marks: 80

Answer any FIVE Questions
All Questions carry equal marks
****

1. a) How can packets ratio throughput can be increased? Explain in brief.
   b) Illustrate the wireless communication network with a neat diagram.   [8+8]

2. a) What is the fundamental difference in the radio capacity formula m =M/k between TDMA and CDMA. Explain in detail.
   b) What is the pole capacity of CDMA is the band width B is 2.5MHz, the data rate is 28.8kbps and E_b/Io =7dB.   [8+8]

3. a) With timing diagram explain the basic access method in distribution Coordination function (DCF)?
   b) Discuss the wired equivalent privacy algorithm for wireless LAN?   [8+8]

4. a) Explain about Wireless ATM.
   b) Discuss WAP architecture with neat schematics.   [8+8]

5. a) What are the differences between the air interfaces of GPRS and CDPD?
   b) Describe about short message servicing?   [8+8]

6. a) Explain the functions of SS 7 user part.
   b) Why is the channel spacing in ARDIS and Tetra 25 kHz and in CDPD 30 kHz?
          [8+8]

7. a) Explain the nature of the interference between the Bluetooth and IEEE 802.11b?
   b) What is the difference between a logical and a transport channel in HIPERLAN2?
          [8+8]

8. Discuss the following quality of service (QOS) parameters in Bluetooth: [16]
   a) token bucket size
   b) delay variation
   c) peak bandwidth
   d) maximum transmission unit.

Code No: L0423 **R07** Set No. 4

IV B.Tech. II Semester Supplementary Examinations, July/August, 2012
WIRELESS COMMUNICATIONS AND NETWORKS
(Common to Electronics &Communication Engineering and Electronics &Computer Engineering)

Time: 3 Hours   Max Marks: 80

Answer any FIVE Questions
All Questions carry equal marks
****

1. a) Mention the key differences between first and second generation cellular system.
   b) Mention the salient features of TDMA   [8+8]

2. a) What are the constraints on cellular networks to provide internet based mobile applications?
   b) What is the number of bits in each burst of GPRS and how does it differ from a GSM burst?   [8+8]

3. a) Explain about forward channel and reverse channel in CDPD physical layer?
   b) Discuss the various services provided by SS 7.   [8+8]

4. a) Draw the block diagram of OFDM modem and explain functionality of each block?
   b) Explain the differences between the medium access control mechanisms of the HIPERLAN2 and IEEE802.11?   [8+8]

5. a) Mention the various systems that are used in 3rd generation wireless network.
   b) Discuss the digital transmission hierarchy briefly.   [8+8]

6. a) Discuss about the security aspects in the Bluetooth.
   b) What are the elements in the core protocols?   [8+8]

7. a)What are the major requirements of wireless LANs?
   b) Draw the configuration of IEEE802.11 architecture?   [8+8]

8. Name mechanism to improve web access for hand held devices. What is their common problem and what led finally to the development of WAP?   [16]

|'|'|||||'|'||'|'|