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

IV B.Tech. II Semester Regular/Supplementary Examinations, April, 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 FDMA with a neat figure, mentioning its features. [8]
   b) Assume that a non linear amplifier is used to broadcast FDMA transmission for the US AMPS standard. If control channel 352 and voice channel 360 are simultaneously transmitted by a base station, determine all cellular channels on the forward link that might calls interference due to inter modulation. [8]

2. a) Bring out the differences between wireless and Fixed Telephone networks. [8]
   b) Explain x.25 protocol with a neat block diagram. [8]

3. a) Write short notes on "ARDIS wireless data service" [8]
   b) Discuss the network services part of SS7 with a neat protocol architecture. [8]

4. a) Explain the tunneling operation in Mobile IP? [8]
   b) Explain the each element functioning with a neat WAP programming model. [8]

5. a) Draw IEEE 802 architecture and discuss the services of IEEEE 802. [8]
   b) Discuss the Application areas of wireless LAN and mention the requirements of wireless LAN mention. [8]

6. a) Draw Bluetooth protocol stack and explain the functioning of each element. [8]
   b) Explain about Logic channels of L2 CAP. [8]

7. a) What is GPRS? Explain how the location and management is achieved in GPRS. [8]
   b) Draw layered protocol architecture of GSM and explain how SMS operation is carried out in GSM. [8]

8. Write short notes on
   a) Wireless ATM [8]
   b) WPAN [8]

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Code No: L0423 **R07** **Set No.2**

IV B.Tech. II Semester Regular/Supplementary Examinations, April, 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) Discuss T D M A frame structure and derive an expression for efficiency of T D M A. [8]
   b) What is packet Radio? and Explain pure ALOHA. [8]

2. a) Distinguish between circuit switching and packet switching. [8]
   b) Explain the second generation wireless networks. [8]

3. a) Draw the block schematic of C D P D network and explain its functioning. [8]
   b) Explain the most frequently used interfaces in ISDN with a neat block schematic. [8]

4. a) What is Mobile IP? Explain the working of Mobile IP with a neat figure. [8]
   b) Write short notes on "W M L Scripts". [8]

5. a) What is Infrared LANS? Explain any two transmission techniques used for data transmission. [8]
   b) Draw the architecture of IEEE 802.11 bringing out its important features. [8]

6. a) Explain about logic link control of Blue tooth. [8]
   b) Distinguish between 1/3 rate FEC and 2/3 rate FEC error connection schemes. [8]

7. Write short notes on
   a)Short Message service (SMS) in GSM. [8]
   b) Mobility issues in GPRS. [8]

8. a) Discuss the protocol entities in WATM with a neat architecture. [8]
   b) What is HIPER LAN and mention the functional requirements for HIPERLAN – I. [8]

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

IV B.Tech. II Semester Regular/Supplementary Examinations, April, 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
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1. a) Distinguish between TDMA and FDMA with a neat figures. [8]
   b) What is packet radio? Determine the maximum through put that can be obtained using ALOHA protocols. [8]

2. a) Discuss the 1st generation wireless networks. [8]
   b) Discuss the traffic routing in wireless networks. [8]

3. a) Discuss the link layer characteristics of ARDIS network. [8]
   b) Draw the SS7 protocol architectures of and explain network services part of SS7 [8]

4. a) Explain the wireless datagram protocol [8]
   b) Discuss the WAP services. [8]

5. a) Write short notes on "spread spectrum LANS" [8]
   b) Discuss IEEE802.11 services in detail. [8]

6. a) Discuss the link manager specification of blue tooth. [8]
   b) Explain the about Bluetooth usage models. [8]

7. a) Draw the block schematic of CDPD network and explain the its working. [8]
   b) Write short notes on "Mobile Application Protocol" [8]

8. a) What is wireless ATM? Explain the basic operation of WATM with a neat reference architectures [8]
   b) Bring out the architectures differences between Hiper lan 2 and IEEE 80211 [8]

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

IV B.Tech. II Semester Regular/Supplementary Examinations, April, 2012

WIRELESS COMMUNICATIONS AND NETWORKS

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Time: 3 Hours **Max Marks: 80**

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

1. a) Explain in detail about SDMA with a neat figure. [8]
   b) Explain various CSMA protocols. [8]

2. a) Bring out the major difference between wireless and fixed telephone networks, mention the limitations of wireless networking.
   b) Explain the working with a neat block schematic of 1st generation cellular radio network. [8]

3. a) Discuss the channel characteristics for RAM mobile data. [8]
   b) Explain signaling traffic in SS7 listing SS7 services in brief. [8]

4. a) Explain registration and encapsulation operation in mobile IP. [8]
   b) Write shot notes on "WAP session protocol" [8]

5. Explain the Following. [2x8]
   i). Infrared LANS
   ii). IEEE 802 protocol architecture

6. a) Explain the adaptation protocol of blue tooth. [8]
   b) Discuss the blue tooth applications in detail. [8]

7. a) Draw the GPRS system architecture and explain how location and Hand off management is achieved. [8]
   b) List the SMS operation in GSM. [8]

8. a)Discuss the protocol entities in ATM with a neat basic architectural [8]
   b) List out the architectural difference between Hiper LAN and IEEE 802.11 [8]