Code No: NR320405 **NR** **Set No. 2**

III B.Tech II Semester Examinations,December 2010
DATA AND COMPUTER COMMUNICATIONS
Common to Electronics And Telematics, Electronics And Communication Engineering

Time: 3 hours **Max Marks: 80**

Answer any FIVE Questions
All Questions carry equal marks

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1. (a) What are the different resource distribution schemes followed in LANs?
   (b) What are the characteristics of logical link control (LLC)? [8+8]
2. (a) Data link protocol almost always puts the CRC in a Trailer rather than in a Header. Why? Explain with an example.
   (b) What is the remainder obtained by dividing $x^7 + x^5 + 1$ by the generator polynomial $x^3 + 1$? [10+6]
3. Explain about different congestion control techniques. [16]
4. (a) Explain the Statistical TDM with a suitable diagram.
   (b) Describe the operation of Synchronous TDM with an example. [10+6]
5. (a) Calculate the bandwidth efficiency for FSK,ASK,PSK and QPSK for a bit error rate of 10 to the power (-7) on a channel with an SIN of 12 dB?
   (b) What SIN ratio is required to, achieve a bandwidth efficiency of 5.0 for ASK, FSK, PSK and QPSK. Assume that the required bit error rate is 10 to the power of (-6). [8+8]
6. Discuss in detail the merits and demerits of datagram approach and virtual circuit approach of data exchange. [16]
7. (a) What are the principles of ISDN?
   (b) Explain the conceptual view of user interface used in ISDN. [8+8]
8. (a) A digital signaling system is required to operate at 9600 bps.
      i. If a signal element encodes a 4-bit word, what is the minimum required band width of the channel?
      ii. Repeat (i) for the case of8-bit word. [4+4]
   (b) What is the thermal noise level of a channel with a bandwidth of 10kHz carrying 1000 watts of power operating at 50 degree centigrade. [8]

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Code No: NR320405 **NR** **Set No. 4**

III B.Tech II Semester Examinations,December 2010
DATA AND COMPUTER COMMUNICATIONS
Common to Electronics And Telematics, Electronics And Communication Engineering

Time: 3 hours **Max Marks: 80**

Answer any FIVE Questions
All Questions carry equal marks

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1. (a) What are the different resource distribution schemes followed in LANs?
   (b) What are the characteristics of logical link control (LLC)? [8+8]
2. (a) Data link protocol almost always puts the CRC in a Trailer rather than in a Header. Why? Explain with an example.
   (b) What is the remainder obtained by dividing $x^7 + x^5 + 1$ by the generator polynomial $x^3 + 1$? [10+6]
3. (a) A digital signaling system is required to operate at 9600 bps.
      i. If a signal element encodes a 4-bit word, what is the minimum required band width of the channel?
      ii. Repeat (i) for the case of8-bit word. [4+4]
   (b) What is the thermal noise level of a channel with a bandwidth of 10kHz carrying 1000 watts of power operating at 50 degree centigrade. [8]
4. (a) Calculate the bandwidth efficiency for FSK,ASK,PSK and QPSK for a bit error rate of 10 to the power (-7) on a channel with an SIN of 12 dB?
   (b) What SIN ratio is required to, achieve a bandwidth efficiency of 5.0 for ASK, FSK, PSK and QPSK. Assume that the required bit error rate is 10 to the power of (-6). [8+8]
5. Discuss in detail the merits and demerits of datagram approach and virtual circuit approach of data exchange. [16]
6. Explain about different congestion control techniques. [16]
7. (a) What are the principles of ISDN?
   (b) Explain the conceptual view of user interface used in ISDN. [8+8]
8. (a) Explain the Statistical TDM with a suitable diagram.
   (b) Describe the operation of Synchronous TDM with an example. [10+6]

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Code No: NR320405 **NR** **Set No. 1**

III B.Tech II Semester Examinations,December 2010
DATA AND COMPUTER COMMUNICATIONS
Common to Electronics And Telematics, Electronics And Communication Engineering

Time: 3 hours **Max Marks: 80**

Answer any FIVE Questions
All Questions carry equal marks

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1. (a) What are the different resource distribution schemes followed in LANs?
   (b) What are the characteristics of logical link control (LLC)? [8+8]
2. (a) What are the principles of ISDN?
   (b) Explain the conceptual view of user interface used in ISDN. [8+8]
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4. (a) A digital signaling system is required to operate at 9600 bps.
      i. If a signal element encodes a 4-bit word, what is the minimum required band width of the channel?
      ii. Repeat (i) for the case of8-bit word. [4+4]
   (b) What is the thermal noise level of a channel with a bandwidth of 10kHz carrying 1000 watts of power operating at 50 degree centigrade. [8]
5. (a) Explain the Statistical TDM with a suitable diagram.
   (b) Describe the operation of Synchronous TDM with an example. [10+6]
6. Discuss in detail the merits and demerits of datagram approach and virtual circuit approach of data exchange. [16]
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8. (a) Data link protocol almost always puts the CRC in a Trailer rather than in a Header. Why? Explain with an example.
   (b) What is the remainder obtained by dividing $x^7 + x^5 + 1$ by the generator polynomial $x^3 + 1$? [10+6]

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Code No: NR320405 **NR** **Set No. 3**

III B.Tech II Semester Examinations,December 2010
DATA AND COMPUTER COMMUNICATIONS
Common to Electronics And Telematics, Electronics And Communication Engineering

Time: 3 hours **Max Marks: 80**

Answer any FIVE Questions
All Questions carry equal marks

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1. (a) What are the principles of ISDN?
   (b) Explain the conceptual view of user interface used in ISDN. [8+8]
2. (a) A digital signaling system is required to operate at 9600 bps.
      i. If a signal element encodes a 4-bit word, what is the minimum required band width of the channel?
      ii. Repeat (i) for the case of8-bit word. [4+4]
   (b) What is the thermal noise level of a channel with a bandwidth of 10kHz carrying 1000 watts of power operating at 50 degree centigrade. [8]
3. (a) Calculate the bandwidth efficiency for FSK,ASK,PSK and QPSK for a bit error rate of 10 to the power (-7) on a channel with an SIN of 12 dB?
   (b) What SIN ratio is required to, achieve a bandwidth efficiency of 5.0 for ASK, FSK, PSK and QPSK. Assume that the required bit error rate is 10 to the power of (-6). [8+8]
4. (a) What are the different resource distribution schemes followed in LANs?
   (b) What are the characteristics of logical link control (LLC)? [8+8]
5. (a) Explain the Statistical TDM with a suitable diagram.
   (b) Describe the operation of Synchronous TDM with an example. [10+6]
6. Explain about different congestion control techniques. [16]
7. Discuss in detail the merits and demerits of datagram approach and virtual circuit approach of data exchange. [16]
8. (a) Data link protocol almost always puts the CRC in a Trailer rather than in a Header. Why? Explain with an example.
   (b) What is the remainder obtained by dividing $x^7 + x^5 + 1$ by the generator polynomial $x^3 + 1$? [10+6]

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