

III B.Tech. II Semester Regular Examinations, April/May -2005
DATA AND COMPUTER COMMUNICATIONS
(Electronics & Telematics)

Time: 3 hours

Max Marks: 80

Answer any FIVE Questions
All Questions carry equal marks

1. (a) Discuss in details the significant transmission impairment.
(b) What is the channel capacity of a teleprinter channel with a 300 MHz Bandwidth and a signal to noise ratio of 3dB.
2. (a) Explain Delta modulation with diagram.
(b) Define and Explain Pulse Code Modulation with waveform.
3. Write short notes on:
(a) Characteristics of TCP
(b) Comparison between synchronous TDM and statistical TDM.
4. Describe the frame format of SONET / SDH.
5. Which technique is internationally standardized for general purpose common channel signaling system? Discuss the characteristic, scope and functions of the same.
6. (a) What are the different resource distribution schemes followed in LANs.
(b) What are the characteristics of logical link control (LLC).
7. (a) What are the various fields in LAPD frame format? Explain in detail.
(b) What are the various functions of the B-ISDN layers? Explain in detail.
8. (a) Describe the routing strategy followed in random and adaptive routing approaches.
(b) What is meant by congestion? What are the effects of congestion.

III B.Tech. II Semester Regular Examinations, April/May -2005
DATA AND COMPUTER COMMUNICATIONS
(Electronics & Telematics)

Time: 3 hours

Max Marks: 80

Answer any FIVE Questions
All Questions carry equal marks

1. (a) Discuss in details the significant transmission impairment.
(b) What is the channel capacity of a teleprinter channel with a 300 MHz Bandwidth and a signal to noise ratio of 3dB.
2. (a) Explain how analog data is digitized with diagram.
(b) Discuss Angle modulation.
3. (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 $x^3 + 1$?
4. Describe the frame format of SONET / SDH.
5. (a) Compare and contrast the various packet switching techniques.
(b) What are the different available configurations for datagrams & virtual circuits? Explain the operation of the same.
6. (a) What are the characteristics of wireless LANs?
(b) What are the important requirements of wireless LANs?
7. (a) What are the various fields in LAPD frame format? Explain in detail.
(b) What are the various functions of the B-ISDN layers? Explain in detail.
8. (a) Describe the routing strategy followed in random and adaptive routing approaches.
(b) What is meant by congestion? What are the effects of congestion.

III B.Tech. II Semester Regular Examinations, April/May -2005
DATA AND COMPUTER COMMUNICATIONS
(Electronics & Telematics)

Time: 3 hours

Max Marks: 80

Answer any FIVE Questions
All Questions carry equal marks

1. (a) What is standards organization?
(b) Draw and Explain standards track diagram.
(c) Explain circuit switching and packet switching.
2. (a) Suppose that the sender and receiver agree not to use any stop bits. Could this work? If so explain any necessary conditions.
(b) Explain the operation null modem.
3. (a) What is bit stuffing? Discuss the applications of data transparency.
(b) Explain Logical Link Control (LLC) with an example.
4. (a) Consider a transmission system using FDM. What cost features are involved on adding one or more station to the system.
(b) Compare TDM and FDM.
5. Discuss in detail the merits and demerits of datagram approach and virtual circuit approach of data exchange.
6. (a) Distinguish single bus and dual bus optical fibre bus configurations.
(b) What are the characteristics of ring LANs.
7. List and explain different transmission structures.
8. (a) Explain briefly any one of the dynamic routing algorithm.
(b) What are the signaling functions of the control signal.

III B.Tech. II Semester Regular Examinations, April/May -2005
DATA AND COMPUTER COMMUNICATIONS
(Electronics & Telematics)

Time: 3 hours

Max Marks: 80

Answer any FIVE Questions
All Questions carry equal marks

1. (a) Draw Simplified Communication model and explain in detail.
(b) Write Short notes on transmission media.
2. (a) Explain Delta modulation with diagram.
(b) Define and Explain Pulse Code Modulation with waveform.
3. Write short notes on:
 - (a) Characteristics of TCP
 - (b) Comparison between synchronous TDM and statistical TDM.
4. Describe the frame format of SONET / SDH.
5. Discuss in detail the merits and demerits of datagram approach and virtual circuit approach of data exchange.
6. (a) What are the advantages of twisted pair star LANs.
(b) Explain the optical fibre passive star configuration.
7. Explain the different services in ISDN connections for end-to-end communication.
8. Describe and distinguish the following circuit-switching techniques.
 - (a) Space division switching
 - (b) Time division switching
