

III B.Tech I Semester Regular Examinations, November 2006

DATA COMMUNICATIONS

**(Common to Computer Science & Engineering, Information Technology
and Computer Science & Systems Engineering)**

Time: 3 hours

Max Marks: 80

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

1. Explain Analog transmission for Analog signal, and Digital transmission for Analog signal clearly with examples. [16]
2. (a) What is the difference between Asynchronous & Synchronous data formats.
(b) How do you identify characters in the given Asynchronous encoded bit stream.
Explain with example. [10+6]
3. (a) Define data link protocol?
(b) What is ISO OSI model and explain. [3+13]
4. List and describe the access control methods? [16]
5. (a) Differentiate between PAP and CHAP.
(b) Give an overview of different switching methods. [8+8]
6. (a) What is ISDN? Describe the services provided by it.
(b) Discuss the evolution of ISDN. [10+6]
7. What is the purpose of leaky bucket algorithm. Discuss about it with flow chart and example. [16]
8. (a) Prove that the data rate for SPE in STS-1 is only 50.112 Mbps.
(b) What is the duration of a frame in STS-1. [10+6]

III B.Tech I Semester Regular Examinations, November 2006

DATA COMMUNICATIONS

**(Common to Computer Science & Engineering, Information Technology
and Computer Science & Systems Engineering)**

Time: 3 hours

Max Marks: 80

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

1. Explain Analog transmission for Analog signal, and Digital transmission for Analog signal clearly with examples. [16]
2. What are the various types of Data Communication codes and explain briefly about each code? [16]
3. (a) What is a Protocol?
(b) Draw the block diagram of ISO OSI model and explain. [3+13]
4. (a) What is TOKEN bus and explain?
(b) What is the difference between TOKEN bus and TOKEN ring? [8+8]
5. (a) Give slot and segment formats of DQDB.
(b) Discuss about SMDS internetworking protocol architectures. [6+10]
6. (a) What is ISDN? Describe the services provided by it.
(b) Discuss the evolution of ISDN. [10+6]
7. (a) Differentiate between PVC and SVC in frame relay.
(b) Discuss about different frame relay layers. [6+10]
8. (a) Discuss the physical configuration of SONET system. Also give an example of a SONET network.
(b) Explain the four functional layers of SONET standard. [6+10]

III B.Tech I Semester Regular Examinations, November 2006

DATA COMMUNICATIONS

**(Common to Computer Science & Engineering, Information Technology
and Computer Science & Systems Engineering)**

Time: 3 hours

Max Marks: 80

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

1. (a) Explain about Digital Data, Digital signals encoding technique?
(b) What is Input and Output in this encoding technique? [12+4]
2. What is Data MODEMS? What are the types of Data MODEMS? Explain about any one type of Data MODEM? [16]
3. (a) Define the three operating modes used with data communications circuits?
(b) What is the function of the clearing character? What is a unique address? A group addresses? A broadcast address? [8+8]
4. Draw the IEEE 802.3 from format and explain. [16]
5. (a) Elaborate on password authentication protocol(PAP).
(b) Discuss in detail about network control protocol(NCP). [6+10]
6. (a) Explain about control and management planes of ISDN
(b) Explain network layer packet format of ISDN.
(c) List call establishment messages in ISDN. [6+5+5]
7. (a) Give an overview of ATM applications.
(b) Describe user-related attributes of ATM. [10+6]
8. (a) Which VT transmits at almost the same data rate as a T-1 line?
(b) A company wants to use SONET to multiplex upto 100 digitized voices Which VT(s) is suitable for this company? [6+10]

III B.Tech I Semester Regular Examinations, November 2006
DATA COMMUNICATIONS
(Common to Computer Science & Engineering, Information Technology
and Computer Science & Systems Engineering)
Time: 3 hours **Max Marks: 80**

Answer any FIVE Questions
All Questions carry equal marks

1. (a) Explain the differences between two-wire and four-wire circuits.
(b) What are the various types of Data Communication Topology and explain.
[5+11]
2. Explain about Forward error correction method with example? [16]
3. (a) What is the Difference between selection and polling? And explain.
(b) Explain about Control field on SDLC protocol? [8+8]
4. What are the LAN transmission data formats in IEEE 802×LANs. Explain. [16]
5. (a) Differentiate between PAP and CHAP.
(b) Give an overview of different switching methods. [8+8]
6. (a) What is ISDN? Describe the services provided by it.
(b) Discuss the evolution of ISDN. [10+6]
7. (a) Explain the reasons attributed to the development of frame relay.
(b) Differentiate between frame relay vs pure mesh T-line network.
(c) Discuss the role of frame relay. [5+5+6]
8. (a) Explain the relationship between the devices used in SONET transmission.
(b) Explain basic format of an STS-1 frame at the photonic layer. [8+8]
