

Code No. 3298

FACULTY OF ENGINEERING  
B.E. 2/4 (CSE) II-Semester (Supplementary) Examination, January 2011  
DATA COMMUNICATIONS

Time : Three Hours]

[Maximum Marks : 75

*Note* :—Answer ALL questions of Part A. Answer any FIVE questions from Part B.

**PART—A (Marks : 25)**

1. What is Data Communication ? 2
2. Define Packet Switching. 3
3. What is Delay Distortion ? 2
4. Define Protocol. What are the layers of the OSI model ? 3
5. Convert the following digital data into digital signal by using Bipolar—AMI :  
1001100101. 3
6. Define Full-duplex & Half duplex and give examples. 2
7. Discuss a null modem. 2
8. Draw the HDLC frame format. 3
9. Explain Ring topology. 3
10. What functions are performed by a Bridge ? 2

**PART—B (Marks : 50)**

11. (a) What is Guided transmission medium ? Explain with examples.  
(b) What is the channel capacity for a teleprinter channel with a 300-Hz bandwidth and an S/N ratio of 3dB ? 6+4
12. (a) Explain the following encoding technique, with diagrams :  
(i) ASK (ii) FSK (iii) PSK.  
(b) Write a short note on Spread Spectrum. 7+3
13. Differentiate Asynchronous transmission with Synchronous transmission. 10
14. (a) Explain sliding window flow control.  
(b) What are the ARQ mechanisms ? 4+6
15. Explain the ATM Architecture with a neat diagram. 10
16. (a) Explain MAC sublayer.  
(b) Explain the functionality of a Bridge. 5+5
17. Explain the IEEE 802.11 Architecture and Services. 10