

*Syllabus* : Basics of Digital communications: Signals, noise, Nyquist rate, Shannon capacity; Analog transmission: modulation techniques, fundamentals of modems, FDM; Digital transmission: PCM, ADPCM, line coding, error handling techniques, TDM, xDSL, spread spectrum; Transmission media: Guided (twisted pair, coaxial, fiber optic) and unguided media; Balanced and unbalanced signalling, interfacing; Principles of switching; Local area networks: Ethernet, Fast Ethernet, introduction to Gigabit Ethernet and WLANs; Hubs, bridges and switches;

*Texts* :

1. W. Stallings, Data and Computer Communications, 8th Ed, Pearson India, 2007.
2. B. Forouzan, Data Communications and Networking, 4th Ed, Tata Mcgraw Hill, 2006.

*References* :

1. A. S. Tanenbaum, Computer Networks, 4th Ed, Pearson India, 2003.
2. J. Quinn, Digital Data Communications, 1st Ed, Prentice Hall Career and Technology, 1995.
3. P. C. Gupta, Data Communications and Computer Networks, 2nd Ed, Prentice Hall of India, 2009.
4. F. Halsall, Data Communications, Computer Networks and Open Systems, 4th Ed, Addison Wesley, 1996.