

Basics of Data communication

Q. Define the terms.

[P: 142-143]

Data Element, Signal Element

Data Rate, Signal Rate.

Bandwidth, Carrier Signal, Jitter.

Q. Study Data rate limit [P: 85]

→ Noiseless channel, Nyquist Rate (P: 86)

→ Noisy channel, Shannon Capacity. (P: 87)

→ Exercise Solution : 3.37 to 3.40 - 3.41

Q. What is Multiplexing?

Q. What is channelization? (P- 382)

Q. Study FDMA, TDMA, CDMA.

(P: 382-390)

Topic: Analog Transmission

- Q.1. Define Modulation.
- Q.2. How many types of Analog-To-Analog conversion?
- Book: Forouzan:- 152.
- Q.3. Define Amplitude Modulation: (P-153)
Explain Sidebands of AM and explain it
mathematically.
- Q.4. What is Double Side Band Suppressed Carrier (DSBSC)
and What is Single Side Band suppressed
carrier (SSBSC)?
- Q.5. Explain frequency Modulation with mathematical
formulation.
- Q.6. Explain Phase Modulation with Mathematical
formulation.
- Q.7. Why do we need Analog Modulation?

Topic: Digital to Analog Conversion.

- Q.1 Study various types of Digital to Analog conversion.

[Ans: ASK, FSK, PSK, BPSK, QPSK, QAM] [Book: 14]

- Q.2. Solve: Book: 11-22

Pg: 158-160.

Book: Forouzan

Topic: spread spectrum.

- Q. Define Spread Spectrum. [P: 180 - cont]
- Q. What are the purposes of Spread Spectrum?
- Q. Study FHSS with Diagram.
- Q. Study DSSS.
- Q. How chips are generated in DSSS.
[Ans: - 385 - 389]
- Q. What is Walsh Table? [P: 389]