I226 Computer Networks

Chapter 2 Physical Layer

(Review Questions)

Each chapter includes a few questions that are designed to help you to revise your first-level understanding of the slide material presented in the lecture.

1. Explain the sampling theory.
2. Show the theoretical maximum transfer rate of noisy communication channel. Suppose the bandwidth of the channel is *B* and the signal-to-noise ratio is *R*. What can you tell from this equation?
3. Give the maximum transfer rate of telephone line with 3 kHz bandwidth and 30 dB signal-to-noise ratio.
4. Describe the difference between baseband communication and broadband communication? Give some features on each technology.
5. Explain the technology called modulation. Give three examples.
6. Suppose a transmission system uses a symbol that carries *n* bits of information and the baud rate is *b*, what is the resulting data transfer rate in bits/second?
7. What does the multiplexing mean? Give some examples.
8. Give some features of Manchester coding in comparison with RZ and NRZ coding.
9. Discuss the difference between coaxial cables and twisted pair cables.
10. Optical fiber is categorized into two groups; single mode fibers and multi mode fibers. Explain their structures and characteristics.
11. Give some features of satellite communication systems.