Chapter 1: Hints & Answers

1.1   (a) Consider the impact of optical character recognition, bar codes, and automated sorting on the delivery of mail.
         (b) Consider two cases: delivery of e-mail through intermediary mail servers; direct delivery of e-mail from source computer to destination computer.

1.4   (b) Consider two modes of communications: the mode whereby the voice mail message is established; the mode of communications between the two persons.

1.7   (a) How are the notions of "edition" and "subscription" dealt with? (b) How does bandwidth affect the mode via which newspapers and television organizations deliver news?

1.10   (a-c) Consider how people and goods are organized and groups for "transfer" across these transportation networks. (d) How do the various transportation networks work together?

1.14   For a circuit board: t_{prop} = 0.4 nanoseconds; For satellite: t_{prop} = 313 ms.

1.15   Identify the cases where the total delay is constrained by: distance; transmission speed.

1.16   (f) 256 networks

1.17   (b) Microelectronic technologies improve by a factor of 4 every three years;
         (f) The graphics-only presentation is approximately 1 MB; the graphics and audio presentation is 7 MB; the video presentation for 100 kbps is 14MB.

1.18   (c-d) What is the impact of the cost of local and long distance telephone service?

1.20   After downloading RFC 2026 and answering the questions, you should also download RFC 791 and read the first two sections on the overview of the Internet Protocol.