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Exercises 6 and 21 Chapter 2

1. The advantages of fiber optics over copper as a transmission medium include that it can go longer distances, much faster transmission speeds, much more reliable transmission, not effected by EMI, RFI, water, or power surges. There are however some disadvantages. These include that it can be easily damaged because it is made of glass, it is only one direction so you must have 2 fibers or bands to send and receive, and they are a fair amount more expensive.

21. The ability to pus a fast microprocessor in every modem has allowed for the error handling of telephone line happens with built-in error correction in layer 1 and greatly reduces the error rate in layer 2 however, they are still possible. No, it does not negate the need for error checking in layer 2 because some errors still get through.