Chapter 12: Hints & Answers

12.2   (b) $E[I]$ = 4.12515 bits/symbol.

12.5   (a) $E[I]$ = 4.06642151, $H \approx 2$

12.7   (c) Compression ration = 2.7575; (d) compression ratio = 3.9

12.11   Transmission errors in PCM affect only the samples that have encountered errors. In DPCM transmission errors affect not only the samples that have encountered errors but also future samples.

12.15   Not transmitting the outer band is equivalent to reducing the bandwidth of the original signal. An example where this is done is in PCM coding of a speech signal where the signal bandwidth is limited to about 4 kHz even though the original signal has a much higher bandwidth.

12.19   Approximately 4 Mbps which is in the range for MPEG2 coding.

12.22   The amount of information in the image prior to compression is around 9 Gbytes.

12.25   (b) 11 MPEG2 channels.