

Comments Q1: Marks for this compulsory question were generally satisfactory to good. The question tests broad understanding of the overall subject matter through multiple short sub-questions. The answers showed that most students have a broad understanding of the course material. A poor mark (<10) in Question 1 invariably corresponds to poor marks on other questions, indicating that the student had paid inadequate attention to the course material overall.

Q2: Only 13 students (out of 65) attempted this question, with mixed results. There were no really well-worked solutions to the central problem part of the question; those who got this right basically guessed that an equal load balance was optimal and compared this to a totally skewed load balance (many forgetting the factor 2 for two processors in the balanced case!).

Q3: Fifty students produced an average of about 11/20, which is slightly lower than expected due to some very poor answers, among the good and reasonable ones. Convolutional coding and decoding were reasonably well understood, and most students adopted the recommended tabular approach to generating the required output bit-stream. The need for FEC in cellular mobile systems was generally well explained. Part (e) was often not well answered for many reasons including a lack of basic understanding and sometimes an absence of units (b/s or kb/s).

Q4: There were 59 answers and an average of 10.9/20. Again there were some very poor answers which brought the average down. Part (a) was not always well answered and too many students did not produce the required block diagram (or got it wrong). In part (b) many students did not explain why runs of zero valued samples occur. Part (c), the Huffman coding example was a strange one because there are so many correct answers (more than is ideal for marking). Only people who did not understand the ordering mechanism (and re-ordering) failed to score here. There were some. Part (d), sensitivity to bit-errors was well understood.

As a final point, some answers were beautifully written and carefully explained. Thank you for this. But there were others that were almost unreadable. The hand-writing was so bad that the examiners had to decipher and rewrite the student's answer before they could mark it. We will have to consider this issue in future; it may not be possible to spend all this time deciphering badly hand-written answers, and marks may be lost.

Overall average: $34.3/60 = 57.2\%$

Overall standard deviation: $12.1/60 = 20\%$
