## 1993 Paper 7 Question 11

## Additional Topics

Describe, for a competent programmer, the decoding of a Lempel-Ziv data compression code. Assume that the input is a stream of positive integers.
[10 marks]
Construct a Huffman Code for a seven-letter alphabet, given the following approximate frequencies:

| a | b | c | d | e | f | g |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 192 | 58 | 105 | 71 | 315 | 131 | 0 | [4 marks] |

Give an error-correcting code and explain how it works, excluding the simple repetition code.
[3+3 marks]

