

1. The encoder structure of a convolutional code is shown in the following figure.
- (a) What are the values for  $(n, k, K)$ ?
  - (b) How many states does this convolutional code have?
  - (c) Write the input-output table representation of the convolutional code.
  - (d) Draw the state transition diagram of the convolutional code.
  - (e) Draw the trellis transition diagram of the convolutional code.
  - (f) If the received codeword at receiver is 1 1 0 1 1 0. Use Viterbi algorithm finding out the original information bits.

