- (i) Find the generator and parity check matrix for systematicCode.
- (ii) Find the code word that begins with 110.
- (iii) If the received code sequence is 101101, determine The message word which was transmitted. [4+3+3]

Or

(a) A rate 1/3 convolutional coder with constraint length of '3' uses the generating vectors

$$X_1 = (100), X_2 = (101) \text{ and } X_3 (111)$$

(i) Draw the encoder configuration and prepare the logic table.

The channel capacity of a white bandilmited Caussian charmel is given

Ethe signal power is fixed and white Considering posering presents the channe capacity, approaches an upper limit With increase to build with

(ii) Draw the state diagram for the coder. [10+6]