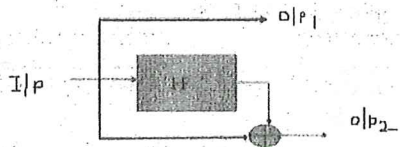
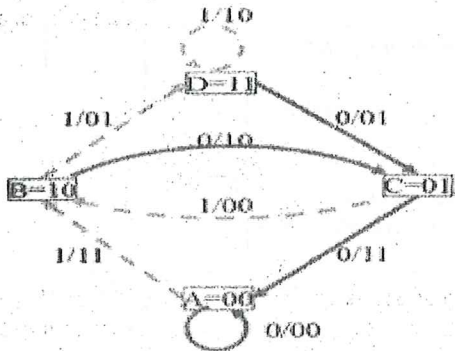


	<p>ii) Find Hamming weight and Hamming distance.</p> <p>ii) Find error detection and correction capability of a code.</p> $G = \begin{bmatrix} 1 & 0 & 0 & 0 & 1 & 1 & 0 \\ 0 & 1 & 0 & 0 & 0 & 1 & 1 \\ 0 & 0 & 1 & 0 & 1 & 1 & 1 \\ 0 & 0 & 0 & 1 & 1 & 0 & 1 \end{bmatrix}$	[4]	CO3	Apply
Q4	<p>a) List properties of generator polynomial OR</p> <p>b) List steps for generating systematic and non-systematic cyclic codes.</p> <p>c) Find syndrome decoding table (7,4) cyclic code with generator polynomial $g(x)=1+x^2+x^3$</p>	[2] [2] [4]	CO4 CO4 CO4	Understand Understand Apply
Q.5	<p>a) Find Syndrome for $r(x) =$ OR</p> <p>b) Derive Galois field for GF(4)</p> <p>c) Derive the extended Galois field for GF(16).</p>	[2] [2] [4]	CO5 CO5 CO5	Understand Apply Apply
Q.6	<p>a) For the convolution encoder shown in figure sketch state diagram representation and calculate d_{free} and error correcting ability from state diagram.</p>  <p>OR</p> <p>b) Draw Trellis Diagram for the above convolutional encoder for depth of $i=4$</p> <p>c) State diagram of a convolutional encoder is shown in figure.</p>  <p>Use Viterbi decoding to decode transmitted message when received message is {01 00 01 00}</p>	[2] [2] [4]	CO6 CO6 CO6	Analyze Apply Analyze