Assignment on DLD for 48th Batch

1. A combinational circuit is defined by the following three Boolean functions

   F1 = x'y'z'+xz F2= xy'z'+x'y F3= x'y'z+xy.

   Design the circuit with a decoder and external gates.

2. Obtain the primitive flow table for an asynchronous circuit that has 2 input's x, y and output z. an output z=1, is to occur only during the input state xy=01 and then if and only if the input state xy=01 is preceded by the input sequence xy=01, 00, 10, 00, 10, 00.

3. A sequential circuit has 2D ff's A and B an input x and output y is specified by the following next state and output equations.

   a. A (t+1)= Ax + Bx
   b. B (t+1)= A'x
   c. Y= (A+B) x'

   (i) Draw the logic diagram of the circuit.
   (ii) Derive the state table.
   (iii) Derive the state diagram.