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ID : 15431

Assignment : no 6

Subject : Digital Logic Design

Course code(CS) : CSC-201

Program : BC (CS)

Assignment No. 6

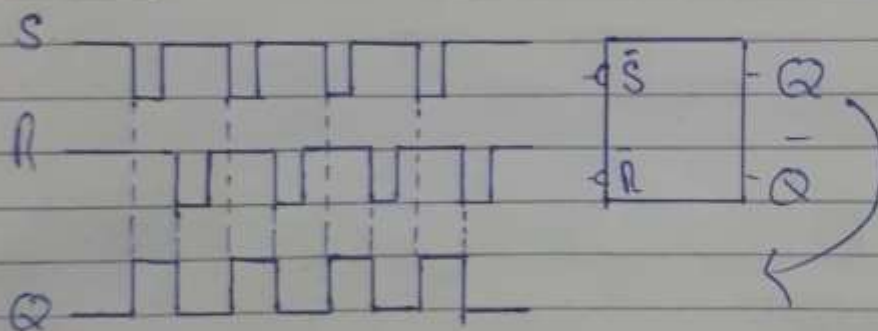
Name . Irfan ullah

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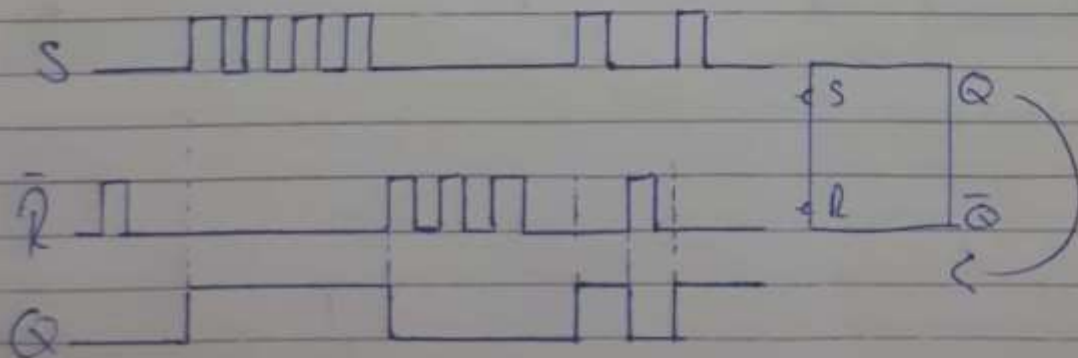
Subject . DLD

Program . Belcaj

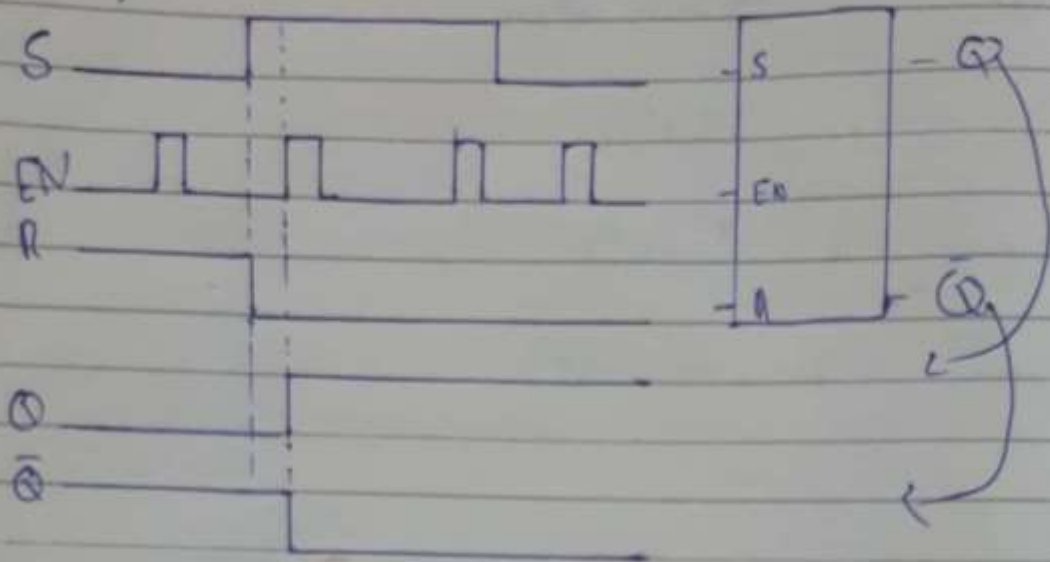
Q1



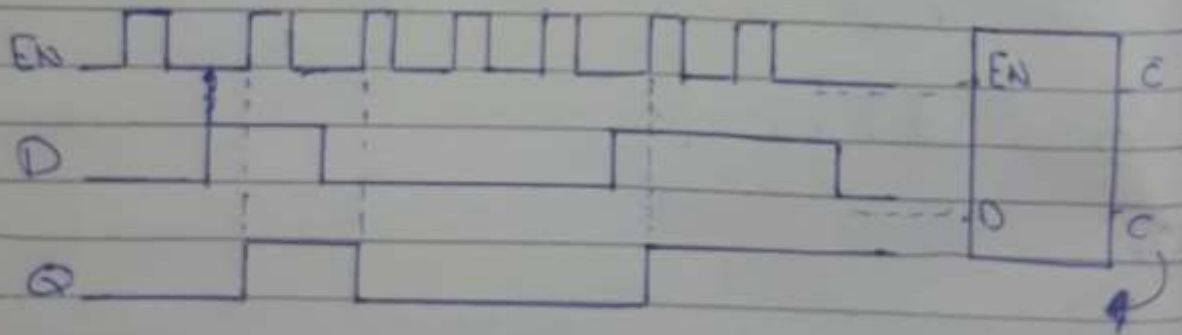
Q2



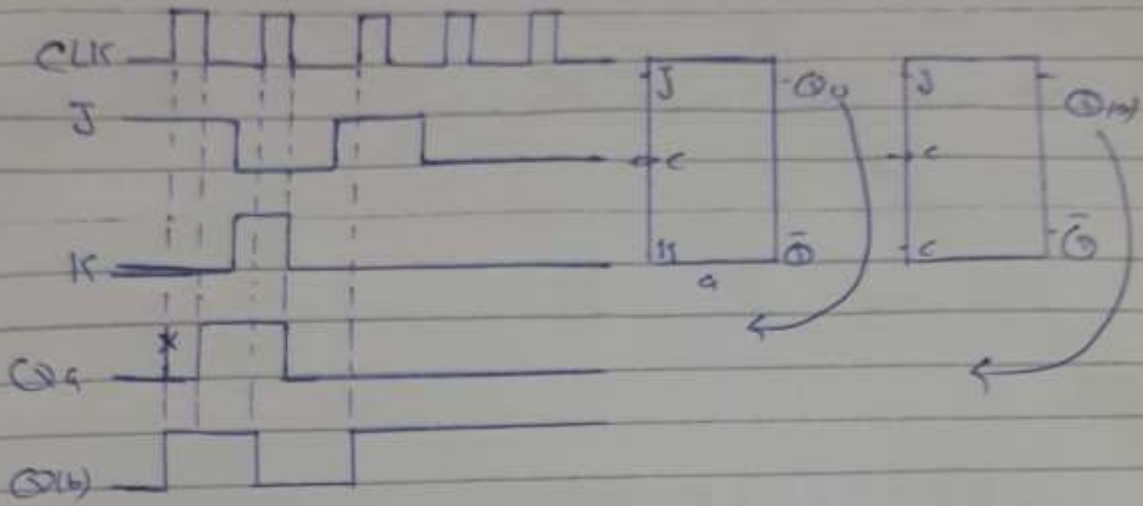
Q3:-



Q4:-



Q5:-

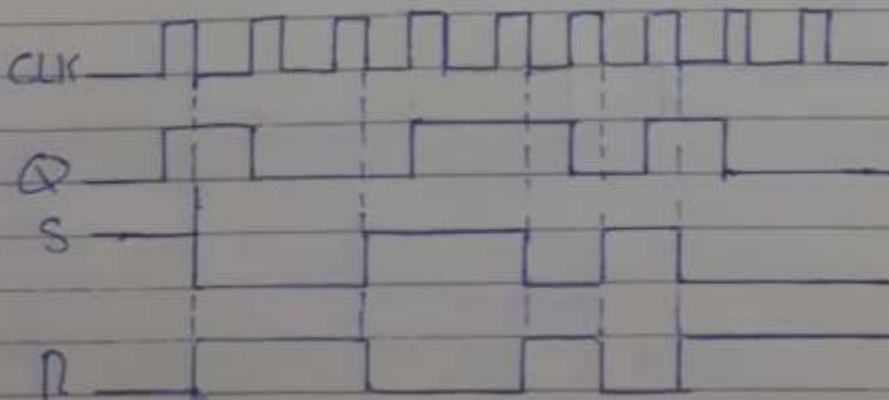


The main difference between (a) and (b) edge triggered JK-Flip-Flops is that

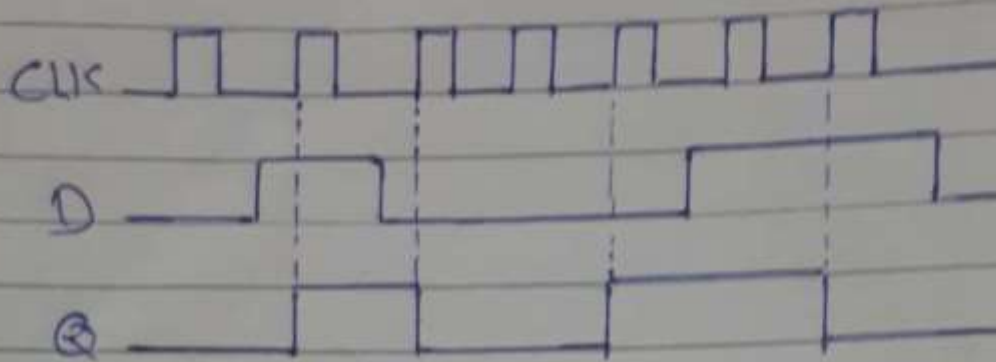
The Flip Flop (a) on the - Negative edge of the clock pulse while

The Flip Flop (b) triggers on the + Positive edge of the clock pulse.

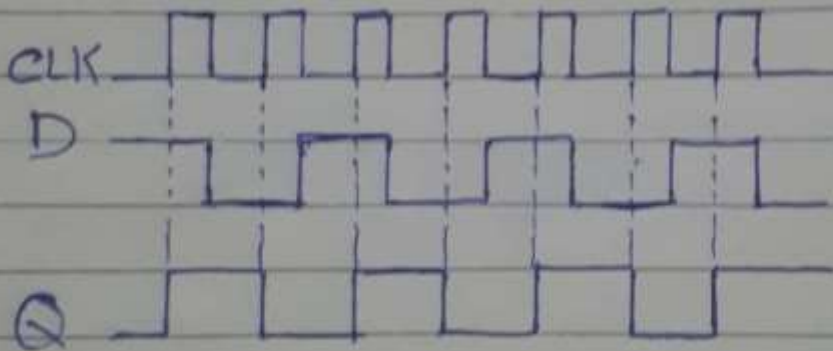
(6):-



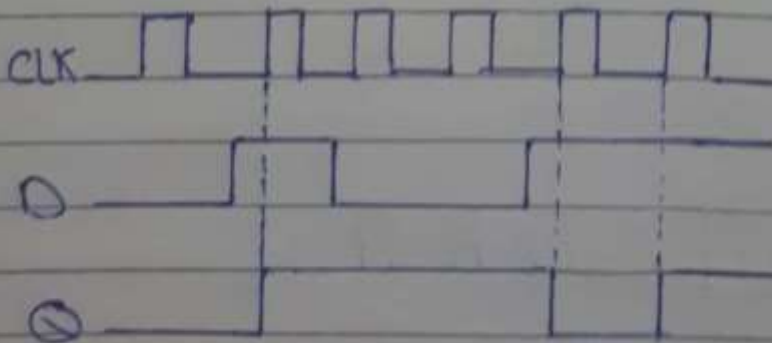
Q7:-



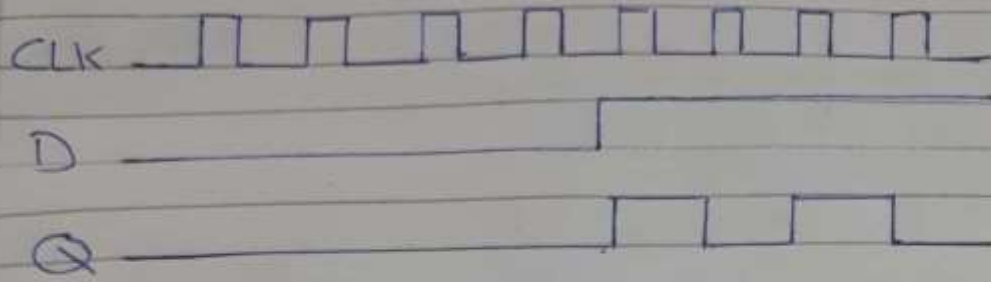
Q8:-



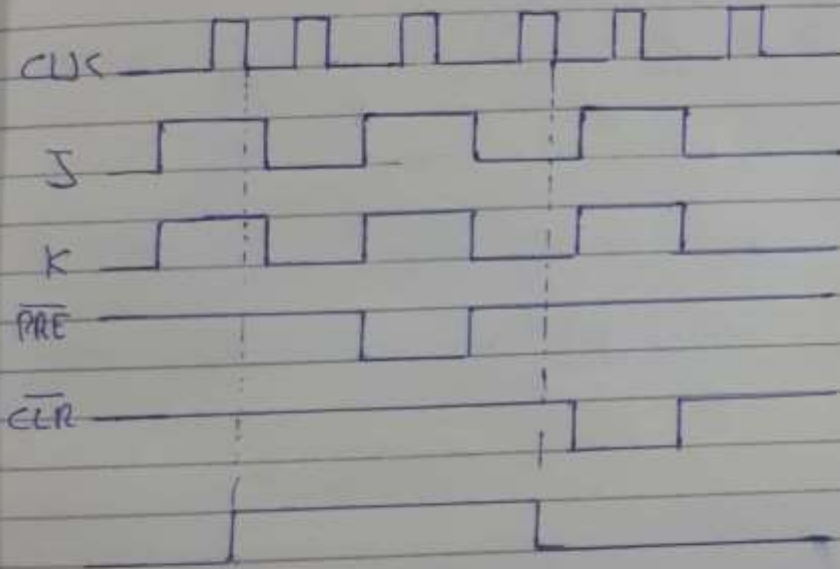
Q9:-



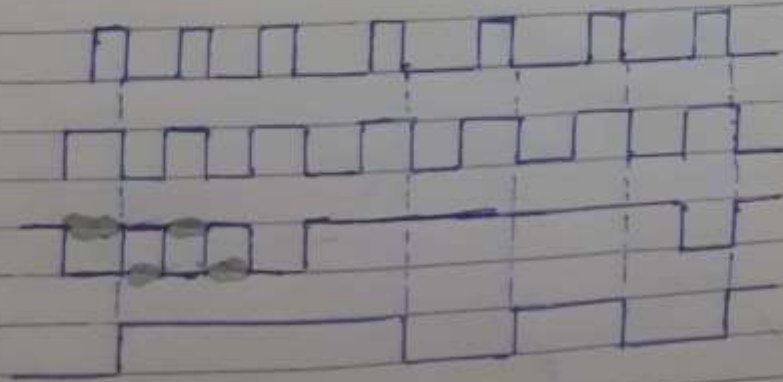
Q10:



Q11:



Q12:



Q13:

$$J_1 = 1010011$$

$$J_2 = 0111010$$

$$J_3 = 1111000$$

$$J = 0010000$$

$$K_1 = 0001110$$

$$K_2 = 1101100$$

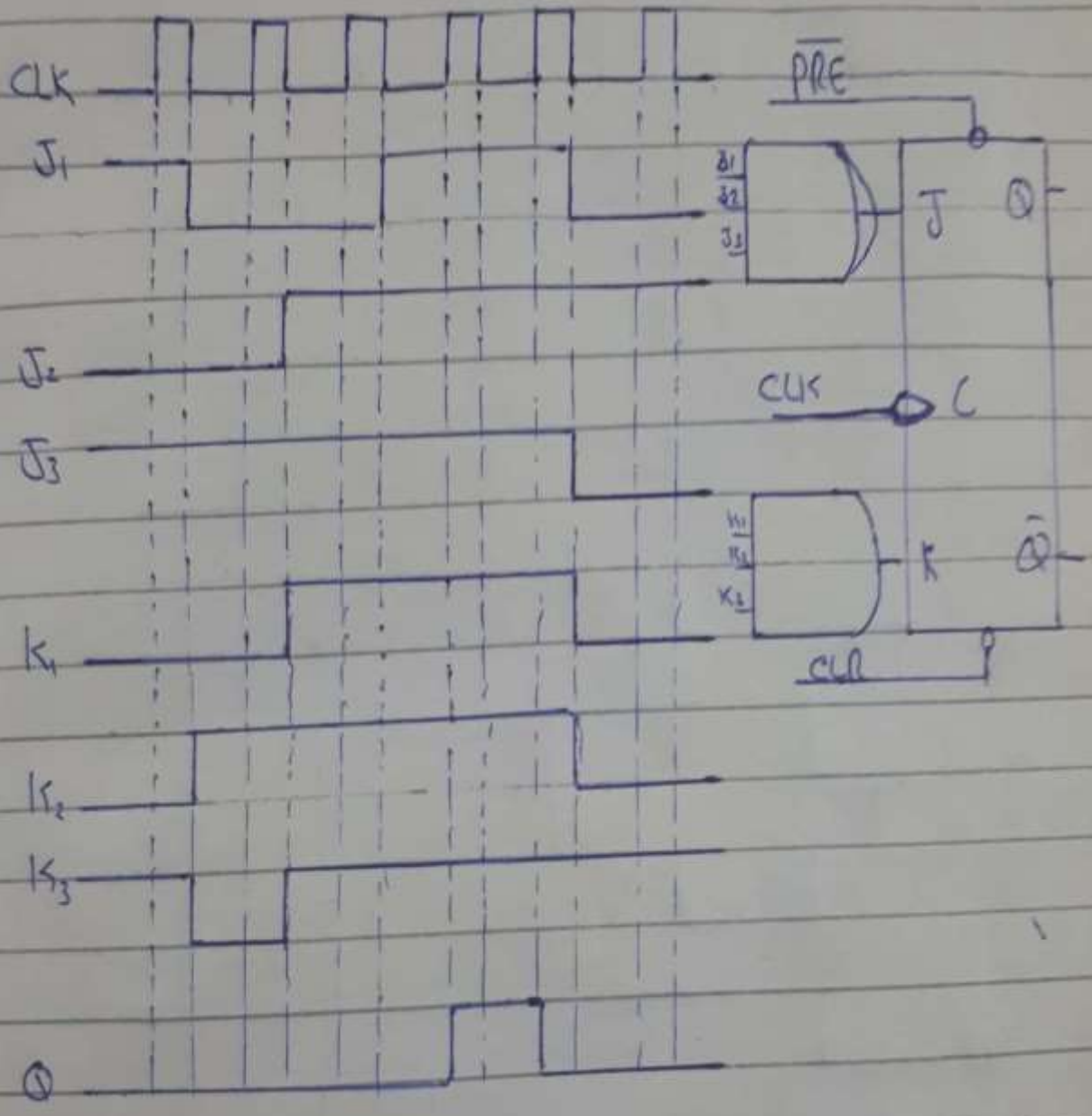
$$K_3 = 0000100$$

$$J = 0010000$$

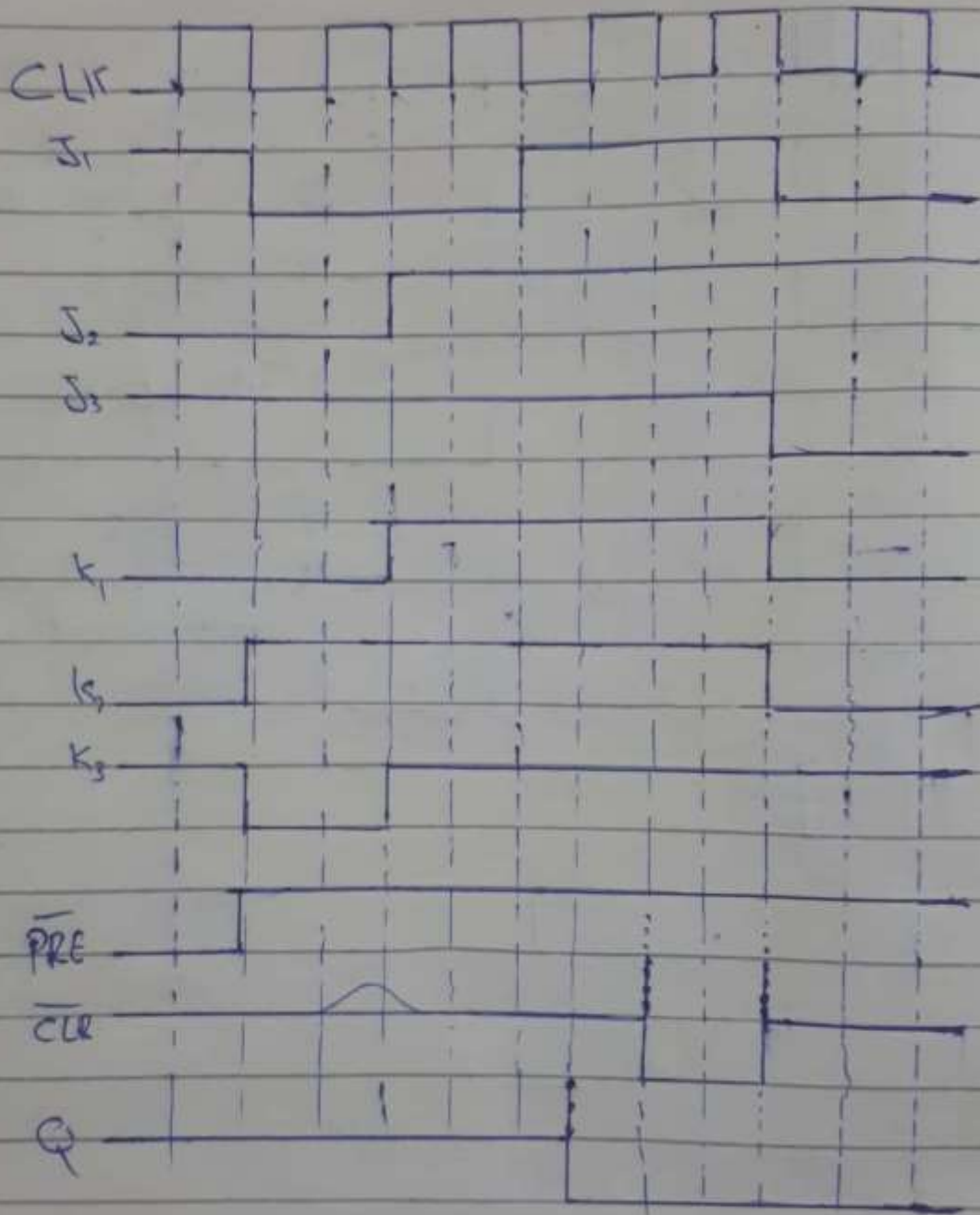
$$K = 0000100$$

$$Q = 0011000$$

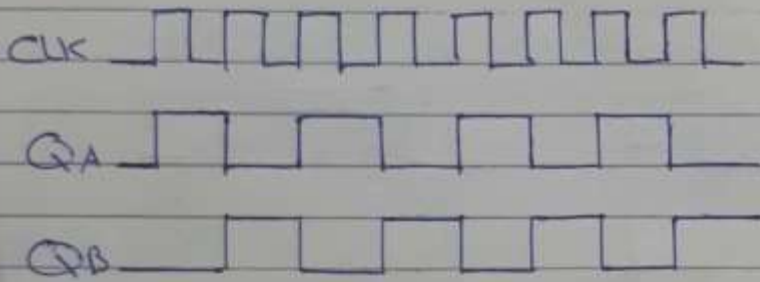
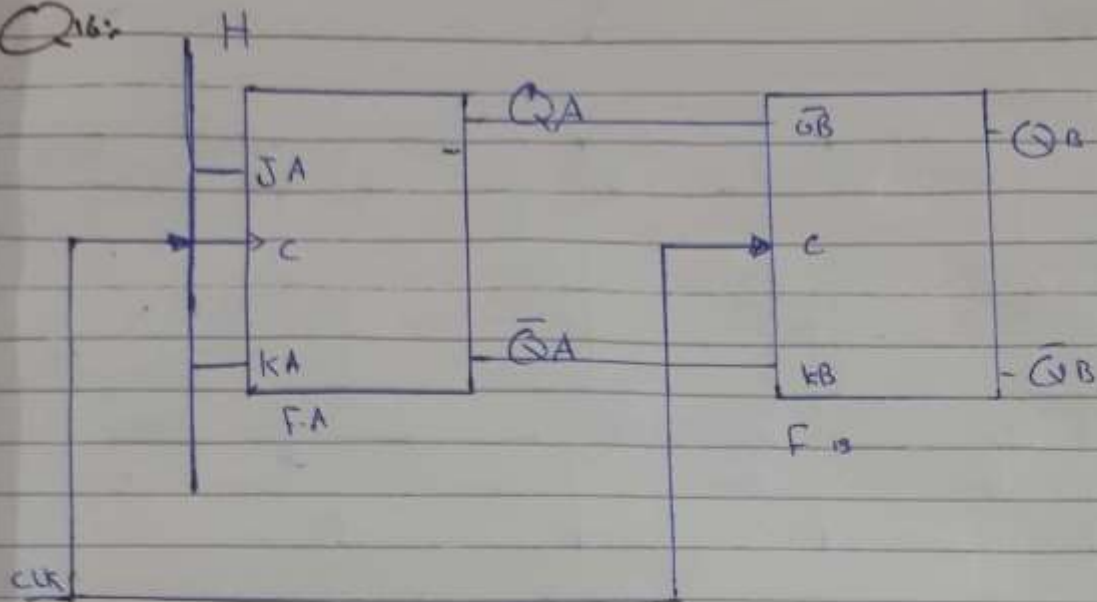
D14:-



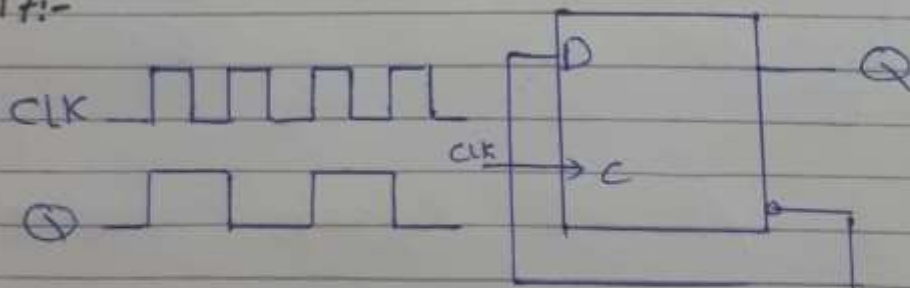
Q15:-



Q16:-

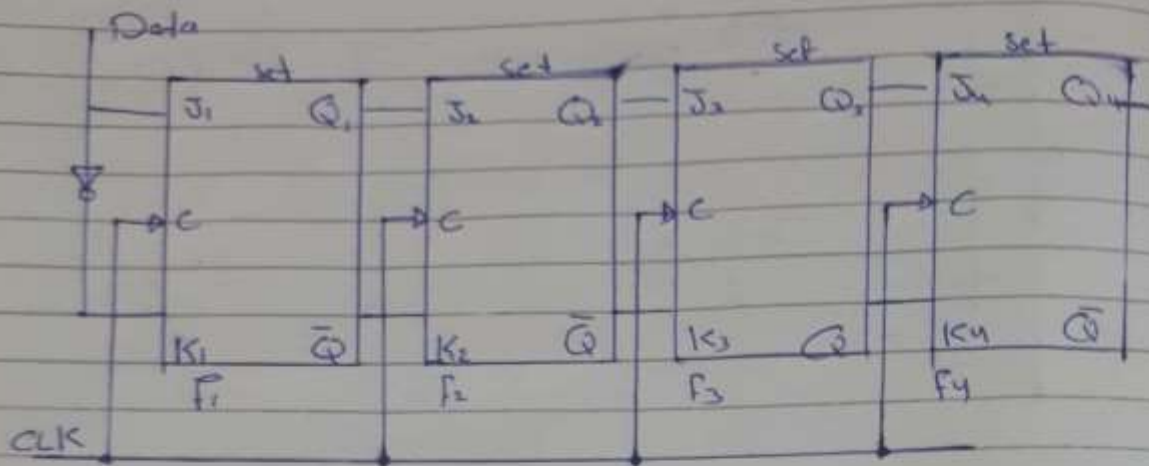


Q17:-

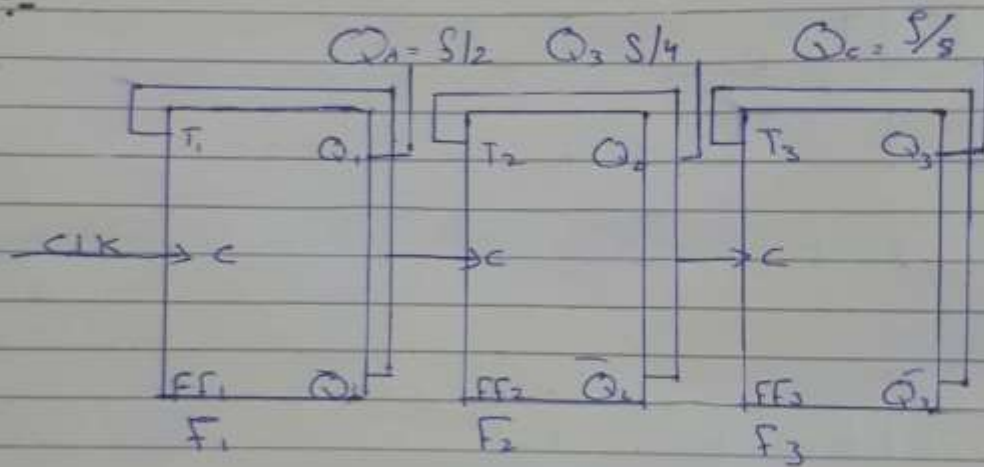


The device Performing the Divide-by-two function

Q18:-



Q19:-



Here if the input frequency is 8kHz
 then the given output frequency will be
 as follows

$$Q_A = \frac{8}{2} = 4 \text{ kHz}$$

$$Q_2 = \frac{8}{4} = 2 \text{ kHz}$$

$$Q_3 = \frac{8}{8} = 1 \text{ kHz}$$