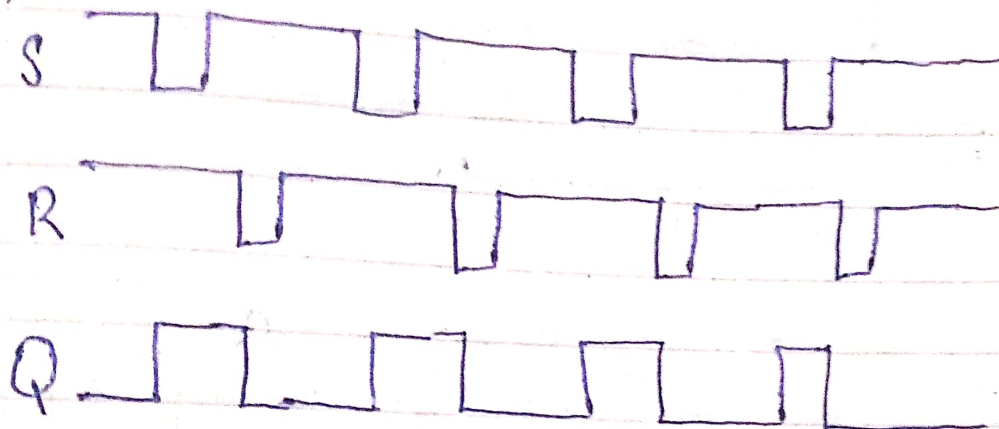


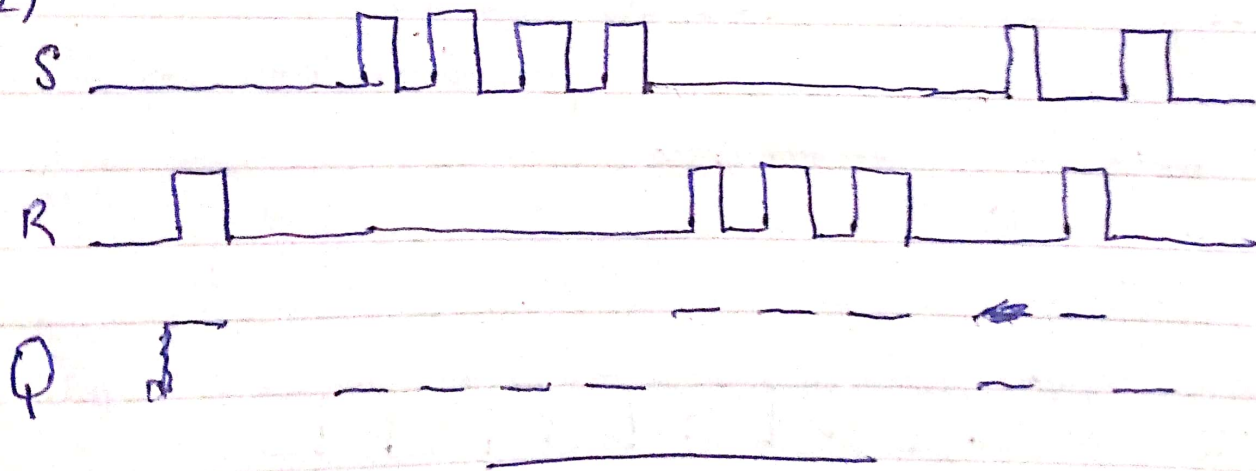
Assignment 06

Chapter - 7

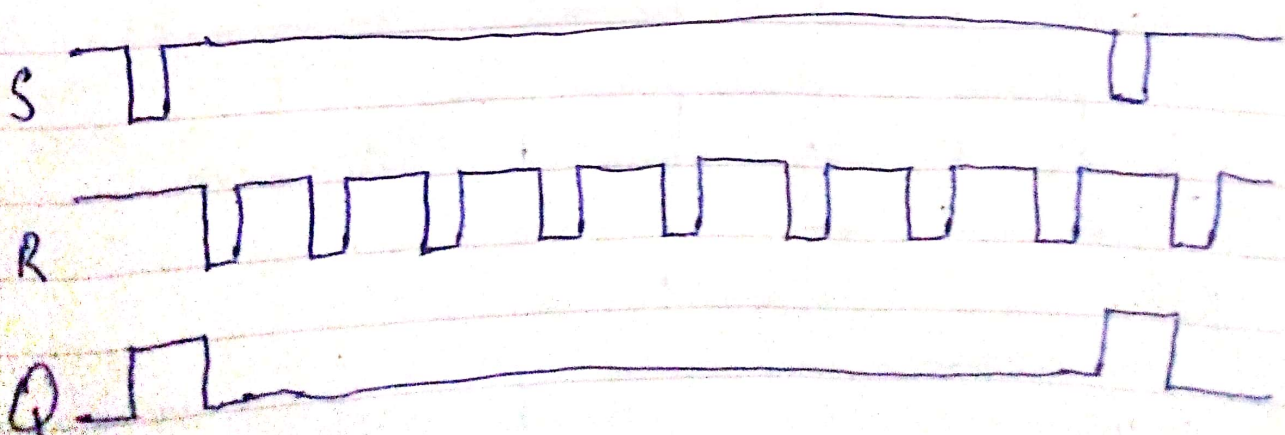
01)



02)



03)



4).

S

EN

R

Q

\bar{Q}

5).

EN

D

Q

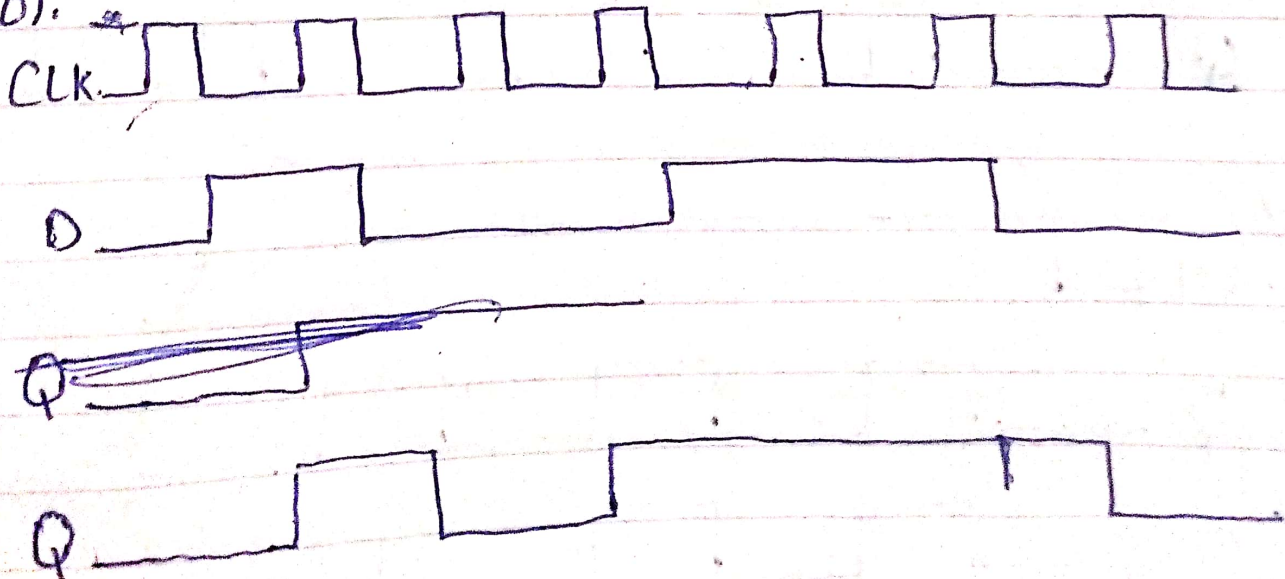
6)

EN

D

Q

CLK



6

12).

CLK

D

Q

13).

CLK

D

Q

14)

CLK

J

K

\overline{PRE}

\overline{CLR}

Q

Q47.

15).

CLK

J

K

Q

16).

J₁ 1 0 1 0 0 1 1

J₂ 0 1 1 1 0 1 0

J₃ 1 1 1 1 0 0 0

K₁ 0 0 0 1 1 1 0

K₂ 1 1 0 1 1 0 0

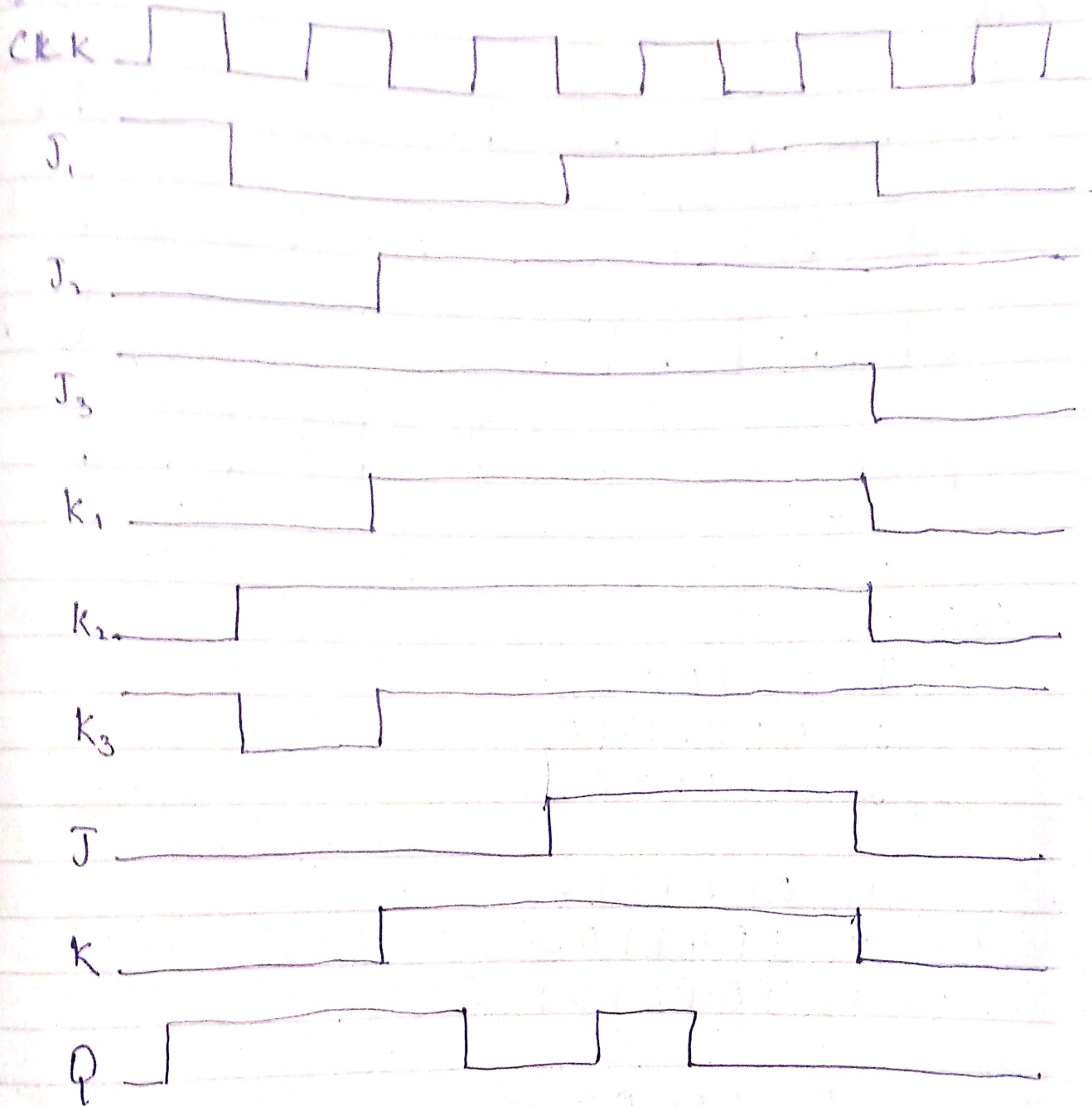
K₃ 1 0 1 0 1 0 1

J 0 0 1 0 0 0 0

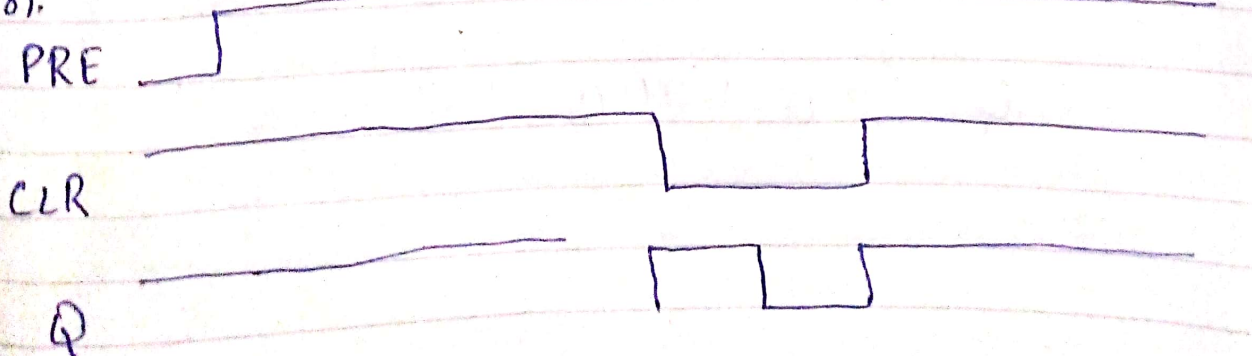
K 0 0 0 0 1 0 0

Q 0 0 1 1 0 0 0

17).



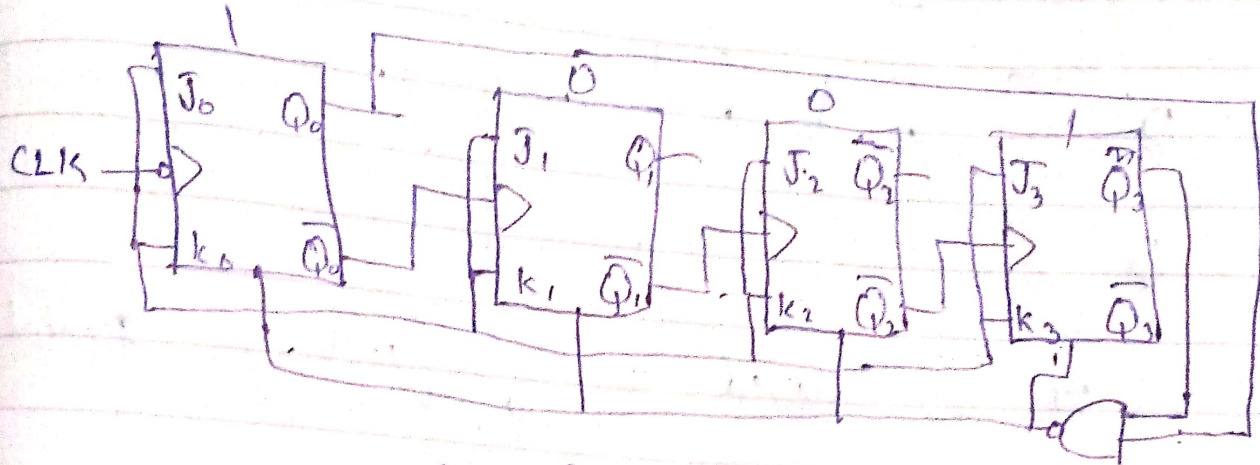
18).



19)

a) 9

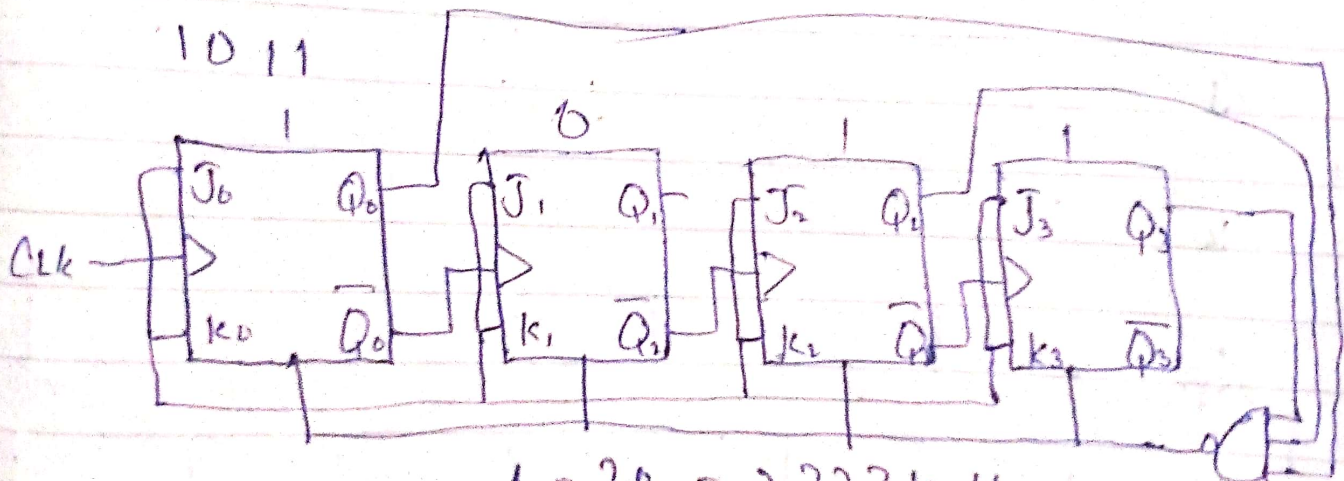
1 0 0 1



$$f = \frac{30k}{9} = 3.33 \text{ kHz}$$

b) 11

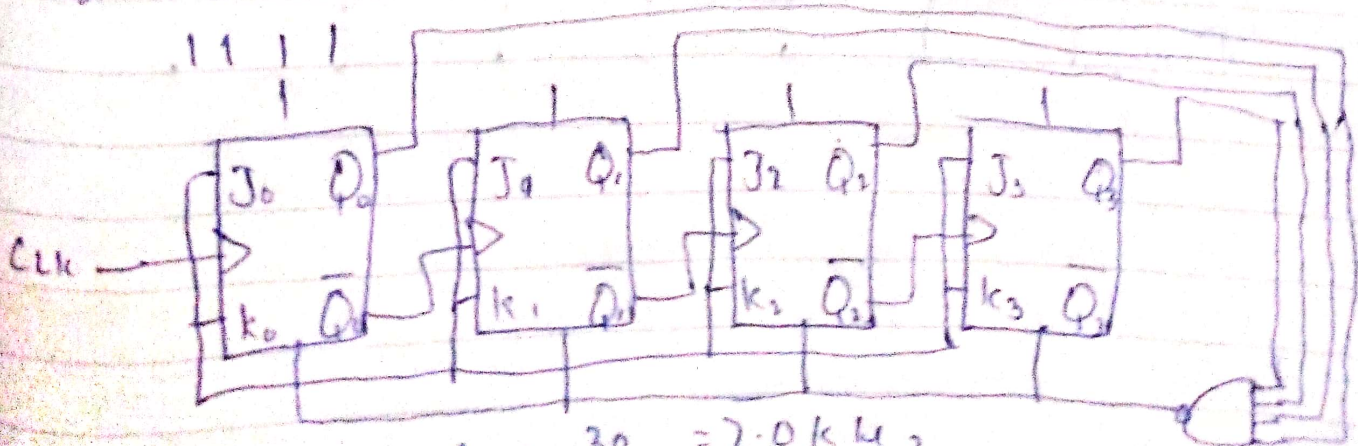
1 0 1 1



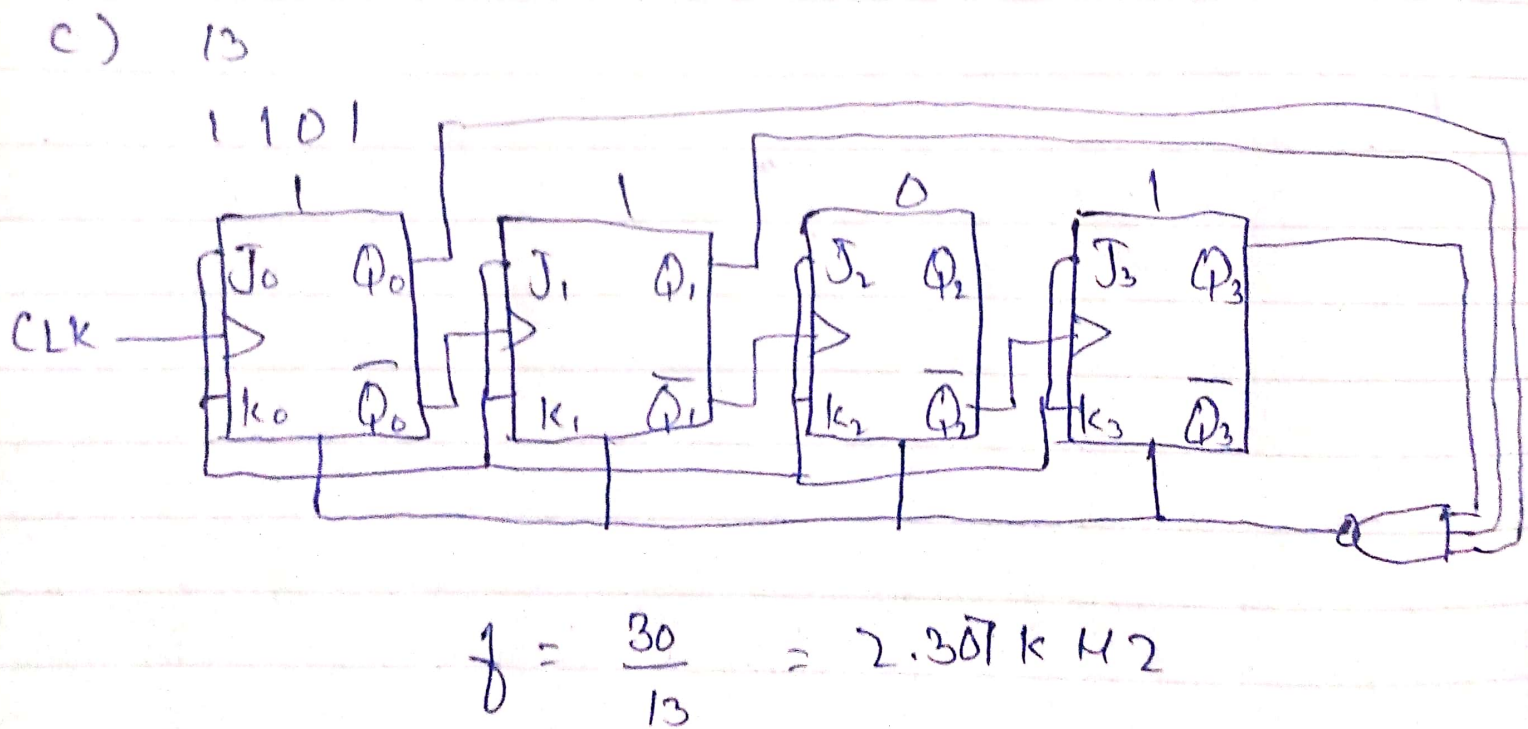
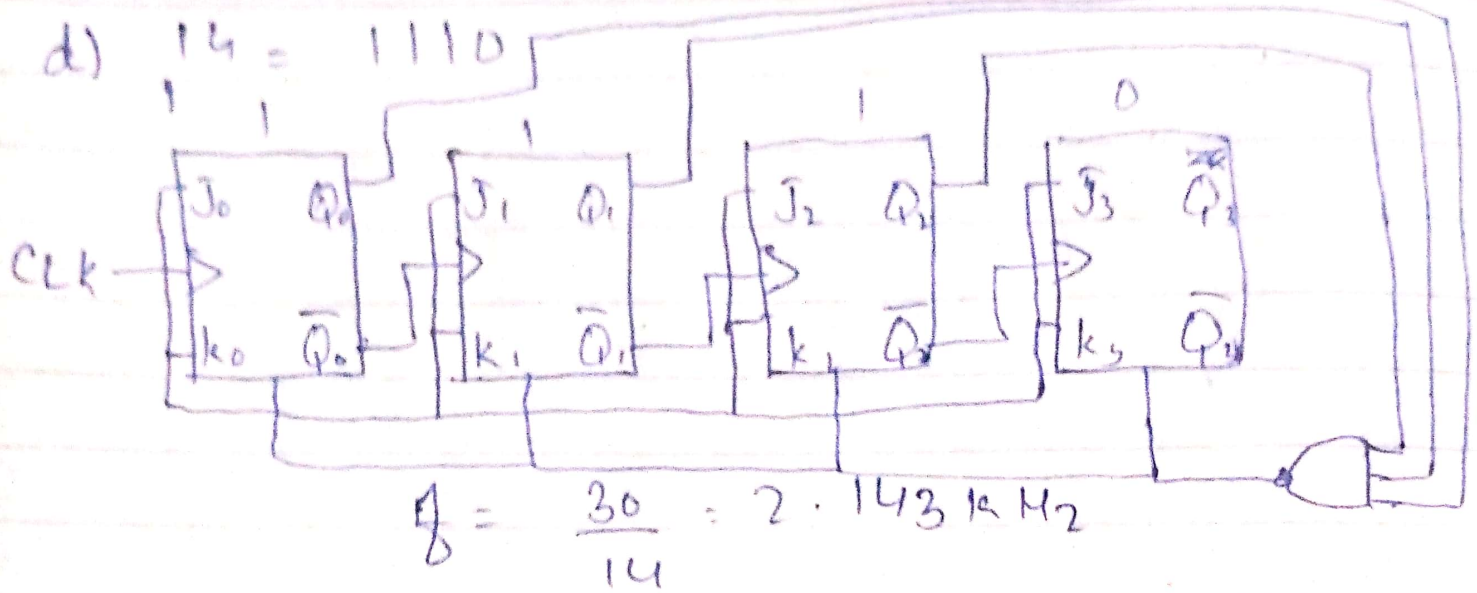
$$f = \frac{30}{11} = 2.727 \text{ kHz}$$

c) 15


1 1 1 1



$$f = \frac{30}{15} = 2.0 \text{ kHz}$$



20).

CLK 

D' 

Q 

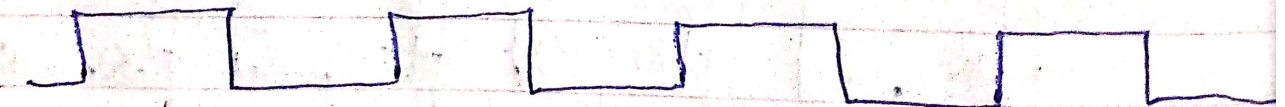
It is used a frequency divider

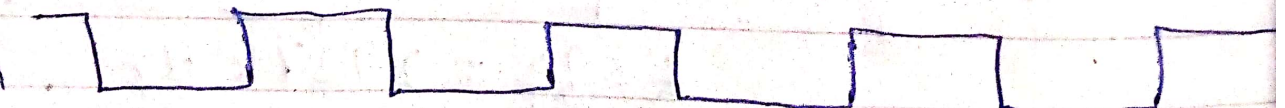
21).

CLK 

J 

K 

Q_A 

Q'_A 

Q_B 