Jaypee Institute of Information Technology, Noida

Tutorial -5

Electronics and Communication Engineering

Electrical Science-2 (15B11EC211), Even Sem-2017

Q.1 Implement 8*1 Multiplexer using two 4*1 Multiplexers.

Q2. Implement following functions using Multiplexer

a) $F(A,B,C,D) = \Sigma(0,1,3,4,8,9,15)$

b) $F(A,B,C) = \Sigma(1,3,5,6)$

Q3 an 8*1 Multiplexer has inputs A, B and C connected to the selection input S2, S1 and S0

The data inputs Do to D7 are as follows:

D1=D2=D7 = 0; D3=D5=1; Do=D4=D; D6=D' (D'- complement of D)

Determine the Boolean expression that the multiplexer implements.

Q4 How many 4*16 Decoders are necessary to decode a 6 bit binary no.

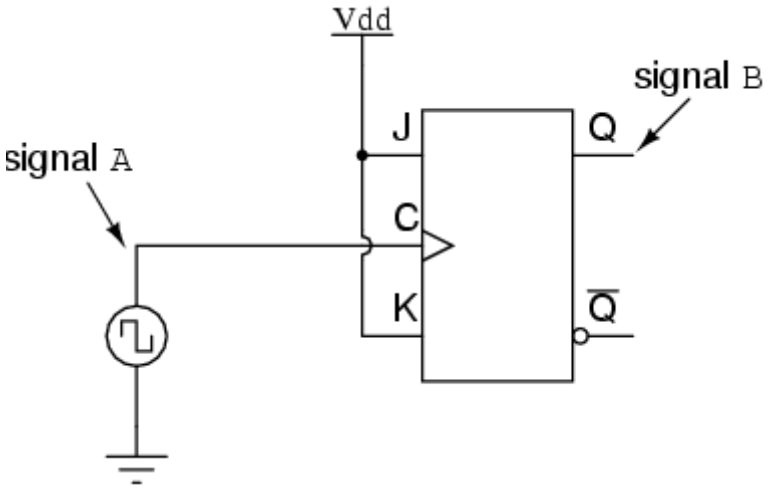
Q5. Implement the following Boolean functions using Decoder

a) $F(A,B,C) = \Pi(1,3,5,6)$

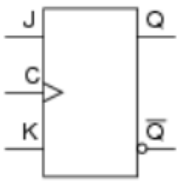
b) F(A,B,C,D)=Σ(0,4,5,6,9,14,15)

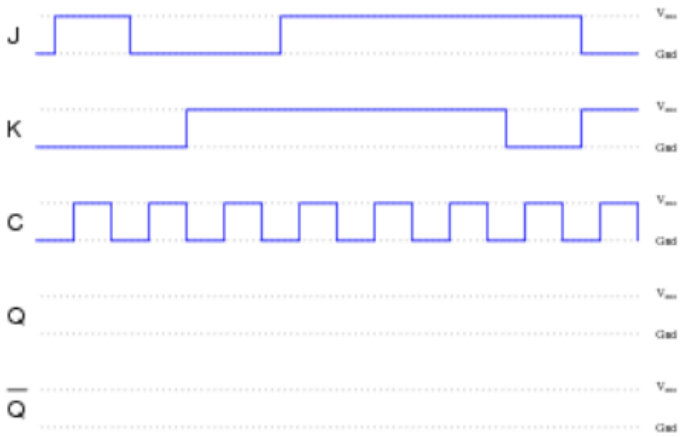
Q5 Draw the output waveform for the following circuit. The Signal A is a Square waveform of frequency 10kz.

Also determine frequency of the output waveform.



Q .6 Determine output states of the J-k flip-flop for the pulse input given below.





Q.7 Determine the output states for this S-R flip-flop for the pulse input givne below.