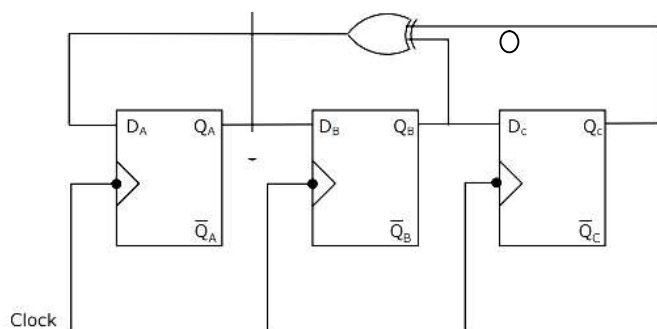


SEQUENTIAL ASSIGNMENT 1

1. Assuming that all flip-flops are in reset condition initially, the count sequence observed at Q_A in the circuit shown is



2. (a) Difference between latch and flip flop

(b) What is the difference between asynchronous counter and synchronous counter?

3. I) A bidirectional 4-bit shift register is storing the nibble 1110. Its input is LOW. The nibble 0111 is waiting to be entered on the serial data-input line. After two clock pulses, the shift register is storing _____

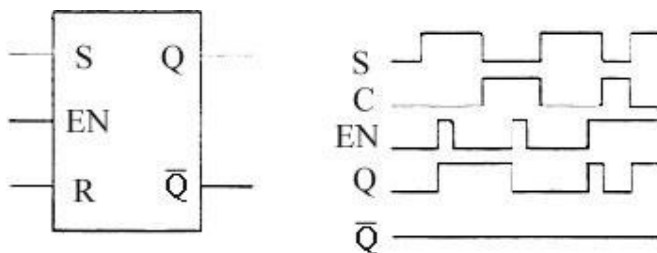
a) 1110 b) 0111 c) 1000 d) 1001

II) Assume there is a mod6 up counter, current state is 101. After 17 clock pulses, what is the state?

4. What does the triangle on the clock input of a $J-K$ flip-flop mean?

a. Level enabled b. Edge-triggered

5. A gated S-R latch and its associated waveforms are shown below. What, if anything, is wrong and what could be causing the problem?



6. How many Flip Flops are required to make Mod 32 Bit Counter?

a. 4 b. 45 c. 3 d. 5