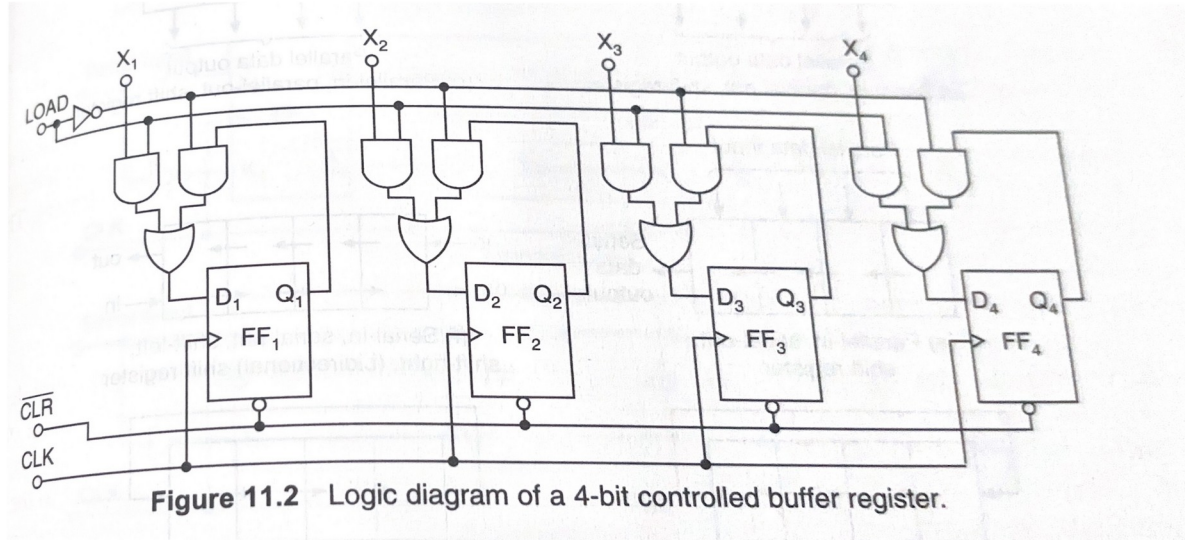# Switching Circuit & Logic Design

Lecture 23 : Register

Buffer Register

Controlled Buffer Register

Figure 11.2 Logic diagram of a 4-bit controlled buffer register.

Data Transmission

(a) Serial-in, serial-out, shift-right, shift register

(b) Serial-in, serial-out, shift-left, shift register

(c) Serial-in, parallel out, shift register

(d) Parallel-in, parallel-out, shift register

(e) Parallel-in, serial-out, shift register

(f) Serial-in, serial-out, shift-left, shift-right, (bidirectional) shift register

(g) Rotate-right shift register

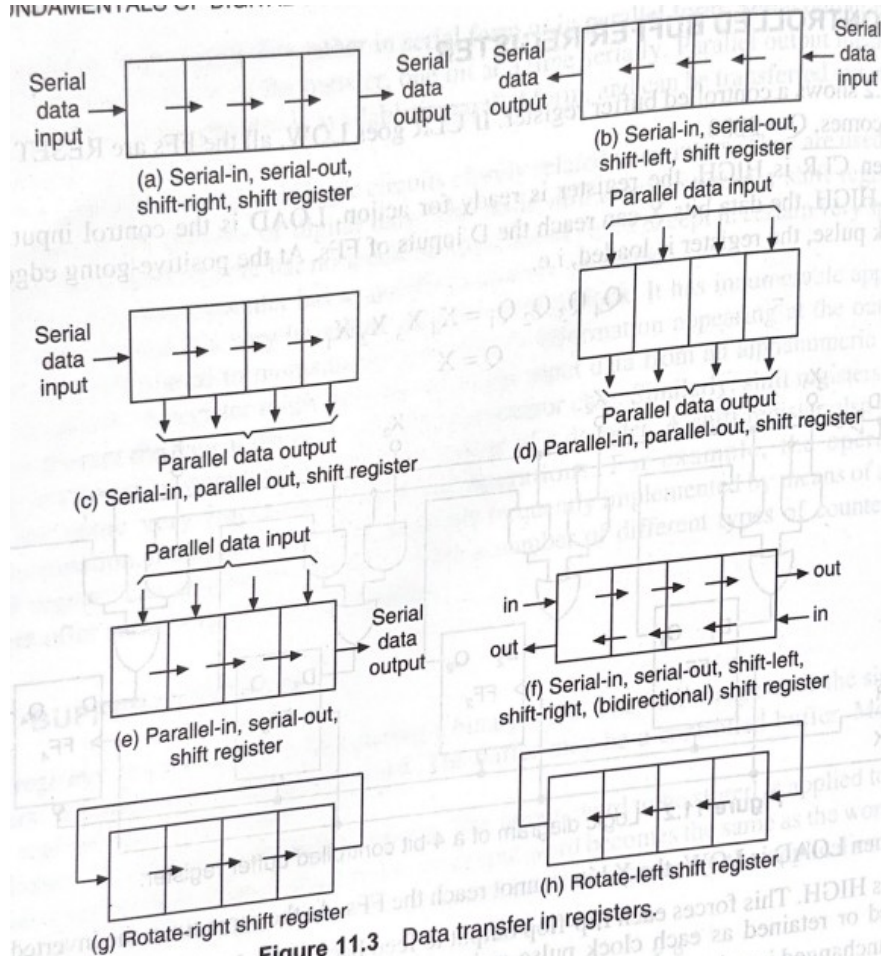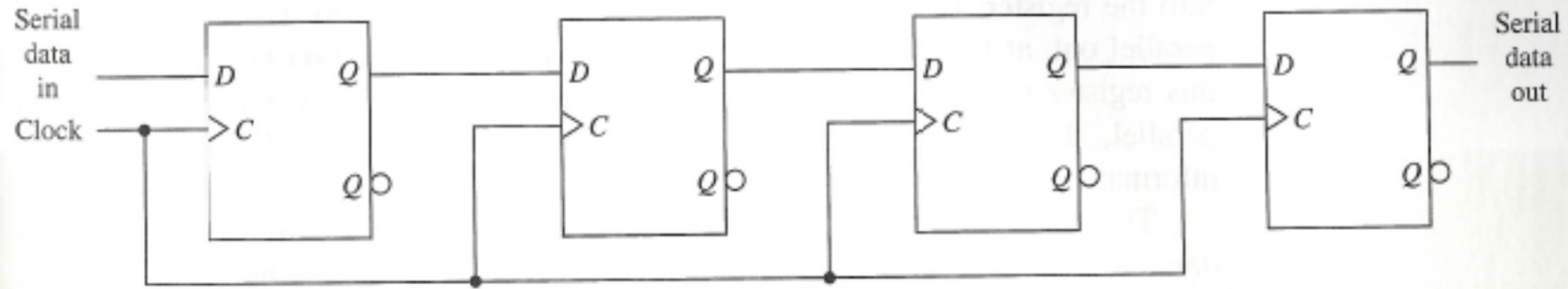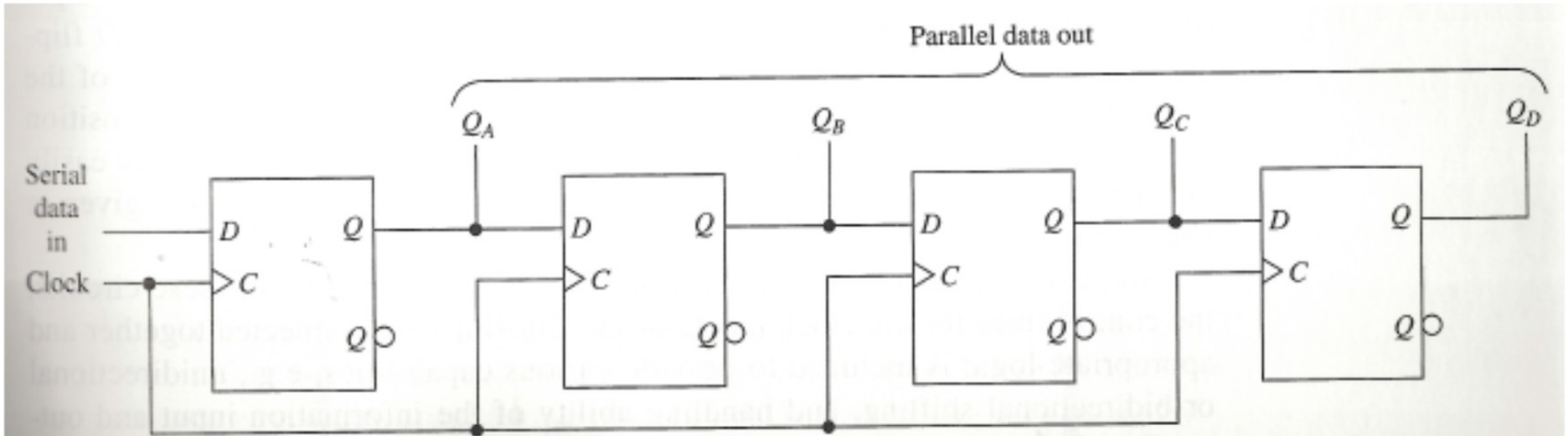(h) Rotate-left shift register

Figure 11.3 Data transfer in registers.
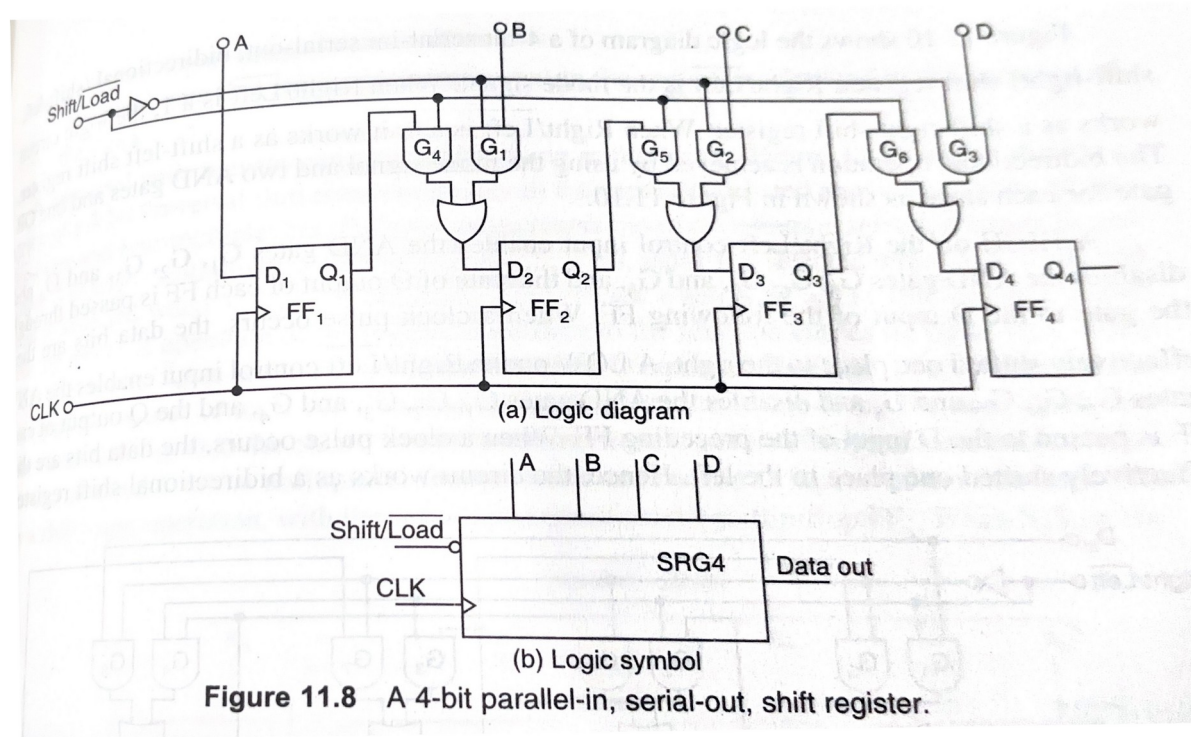
Serial-in Serial-out

Figure 6.26 Serial-in, serial-out unidirectional shift register.

Serial-in Parallel-out

Figure 6.27 Serial-in. parallel-out unidirectional shift register.

Parallel-in Serial-out

Figure 11.8   A 4-bit parallel-in, serial-out, shift register.
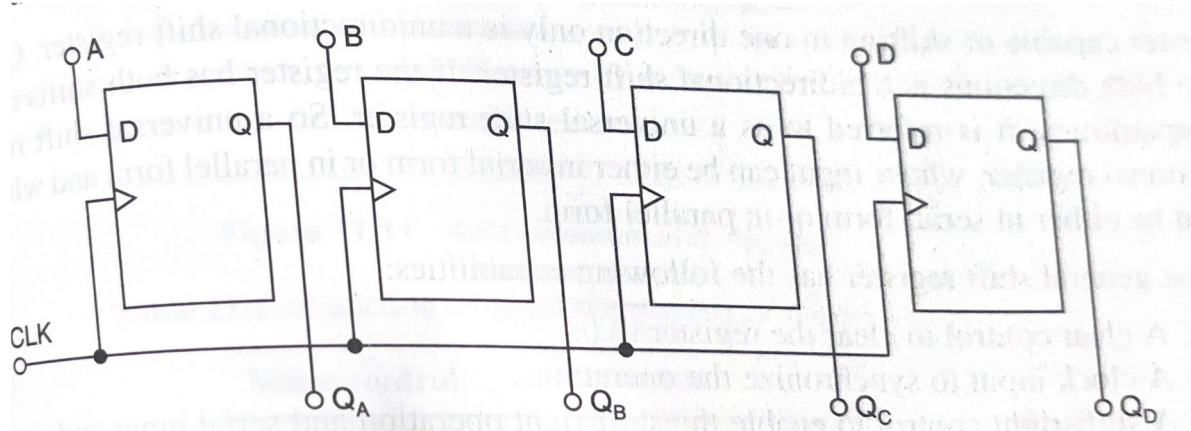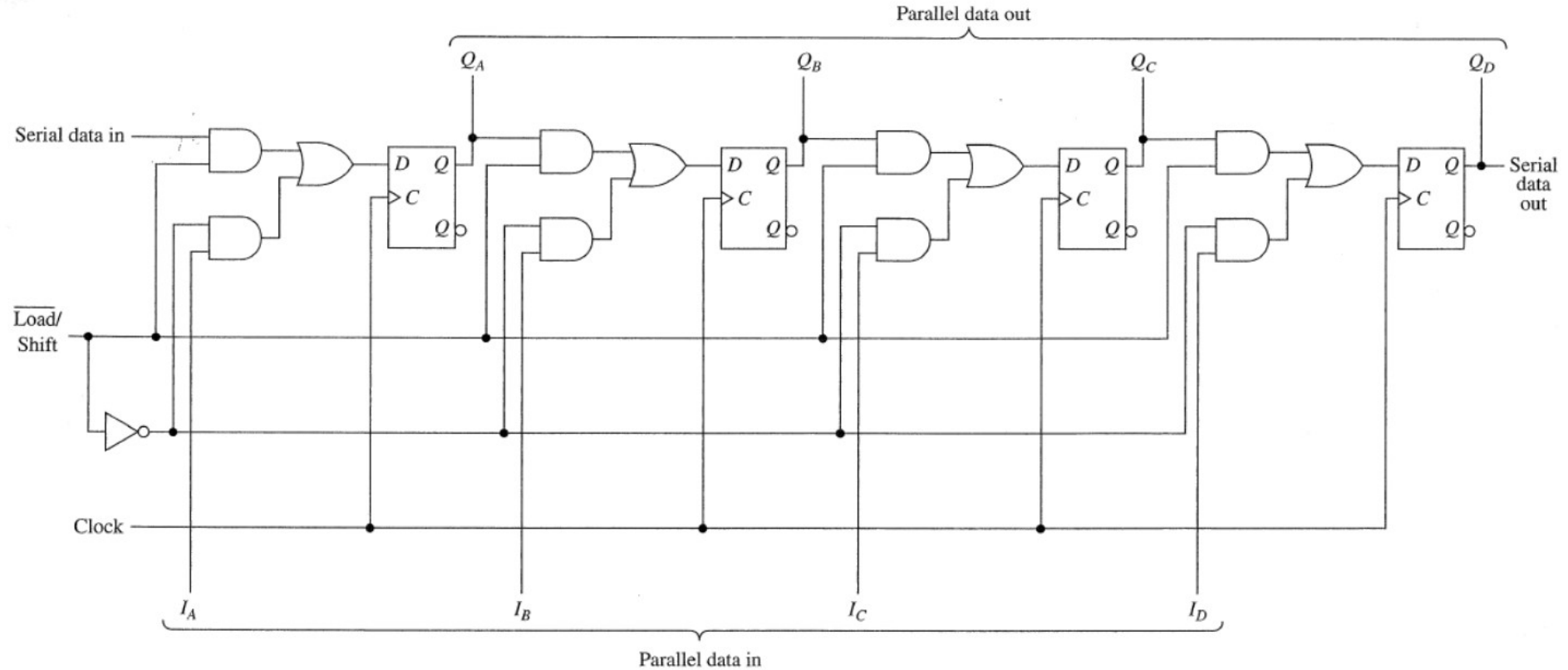
Parallel-in Parallel-out

Figure 11.9 Logic diagram of a 4-bit parallel-in, parallel-out, shift register.

Bidirectional Shift Register

Figure 6.28   Parallel-in unidirectional shift register.