

Digital Logic Design

Final Exam. 6/21/2004

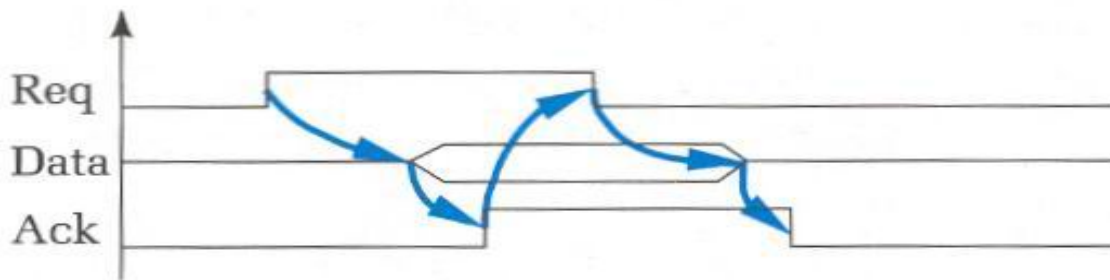
考試時間: 90 mins

姓名:

注意:作弊一律以零分計

學號:

一. (20pts) Explain the handshaking protocol depicted in the following figure.



二. (20pts) Implement the logic function $F(A,B,C,D) = \sum m(4,5,6,7,8,11) + d(9,10)$

(a) using a 4: 1 Multiplexer

(b) using a 2: 1 Multiplexer

三. (40pts) Design a counter with sequences 0,4,6,7. **Direct all illegal states to 0.**

Note: Use the symbol in order of CBA.

(a) using T FFs.

(b) using D FFs

四. (10 pts) Compare the following two design strategies **using the example** given in Chap 7 of Feynman's book, "The pleasure of finding things out"

(a) Bottom-up (b) Top-down

五. (10 pts) For a RS-latch, draw the waveform of output signals Q and \bar{Q}

